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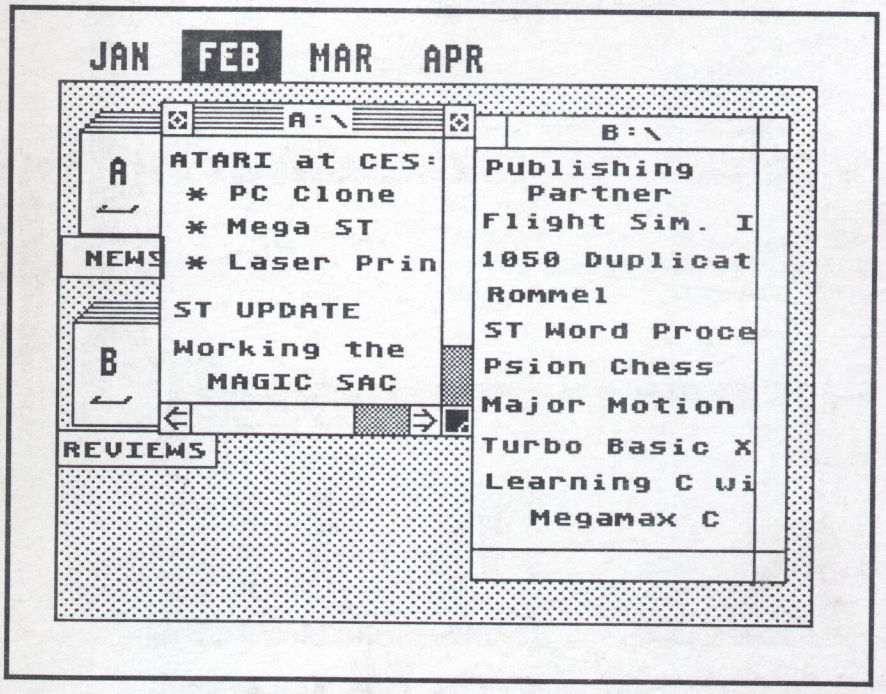
Current Notes

Vol. 7 No.1 February 1987



ATARI®

Your Monitor on the World of Atari

Volume 7, No. 1

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The ST EDITOR is Frank Sommers, 4624 Langdrum Lane, Chevy Case, MD 20815. The XE/XL EDITOR is Jack Holtzhauer, 15817 Vista Drive, Dumfries, VA 22028. Submissions of articles or review copies of products should be sent directly to the appropriate editor. Deadline date for articles is the 10th of the month. Advertising copy, subscription requests or back-issue orders should be sent to the MANAGING EDITOR, Joe Waters, 122 N. Johnson Rd., Sterling, VA 22170. Deadline date for advertisements is the 17th day of the month.

E D I T O R I A L

Welcome to another year of *Current Notes*. (By the way, this is the first issue of the year. Remember, there is no January issue.) I'm sure you'll notice a few changes in our format for 1987. The first, and most obvious, is the cover. Our new cover design is courtesy of Bill Price, who, I think you will agree, has done a first-rate job. Bill is keenly interested in the whole area of publications and formatting as you will see as you read his in-depth review of *Publishing Partner*.

Some of you may also notice that this issue is a little heavier than normal. With 76 pages, this is our largest issue ever. In standard typescript double-spaced pages, you would be holding a 290-page document. That's a lot of material (and a lot of editing!). Even though we do have quite a bit of news in this issue, even I am beginning to think what we have is a bit more like a magazine than a newsletter. Hence, the change in our subtitle this year from "The Newsletter for Atari Owners" to "Your Monitor on the World of Atari." I think this catches the flavor of what we are trying to do: keep you, the Atari owner, well-appraised of Atari-related news, events, hardware, and software.

Speaking of news, there's a lot of it this month to help kick off 1987. Read about the new Mega ST, the Atari (IBM) PC clone, and Atari Desktop Publishing. These, as well as other new or updated products from third-party sources, (such as the GEM-based version of VIP, the new release of dBMAN with integrated editor and GEM functions, the upcoming release of Microsoft Write as well as Word Perfect for the ST, just to mention a few), all point to a good year for Atari and for Atari owners. And this is only February! Hold on to your hats, friends, because you are going to see a lot of new and exciting products come out this year (and I certainly don't mean from Atari only).

Speaking of "new", let me take this opportunity to welcome a new addition to the CN family who will be most helpful in keeping us up to date, Dave Small. Dave's first column (see p. 10) should give us all a new insight into what CES is REALLY like. Joe Kuffner has also launched a new column called "Relax and Enjoy." Of course, we all known Atari computers are just "toys" so Joe will make sure we can play with them to best advantage.

Do you remember the Hot List? That was a list of volunteers who were brave enough to claim some degree of competence in various software or hardware areas and offered to help Atari owners who were encountering problems. I had hoped to run an updated list of names this month, but it just didn't make it in time. Therefore, let's take this opportunity to encourage anyone out there who would like to add their name to the list (or remove it for that matter) to be sure to contact Georgia Weatherhead, 3130 Cedar Grove Drive, Fairfax, VA 22031 (703/938-4829). Next month we'll have the new Hot List.

One final note. In a series of ads, Black Patch Systems is claiming to be "Rated #1." They state, "We are the #1 rated Atari Direct Merchant in the Nation." As support, they cite "*Current Notes Survey 10/86*". Hmmmm. I didn't remember reading that. So I checked. Bob Kelly, in his "Atari Scuttlebits" column was doing the second, and final, report on his survey (three quarters of whose respondents, by the way, were from the Washington, D.C. area). I found this sentence: "The favorite mail order firms in rank order (all were closely grouped) are: Black Patch, Lyco Computers, Software Discounters of America, and Computer Mailorder." I'll leave it to you to decide whether the evidence supports the claim.

Joe Waters

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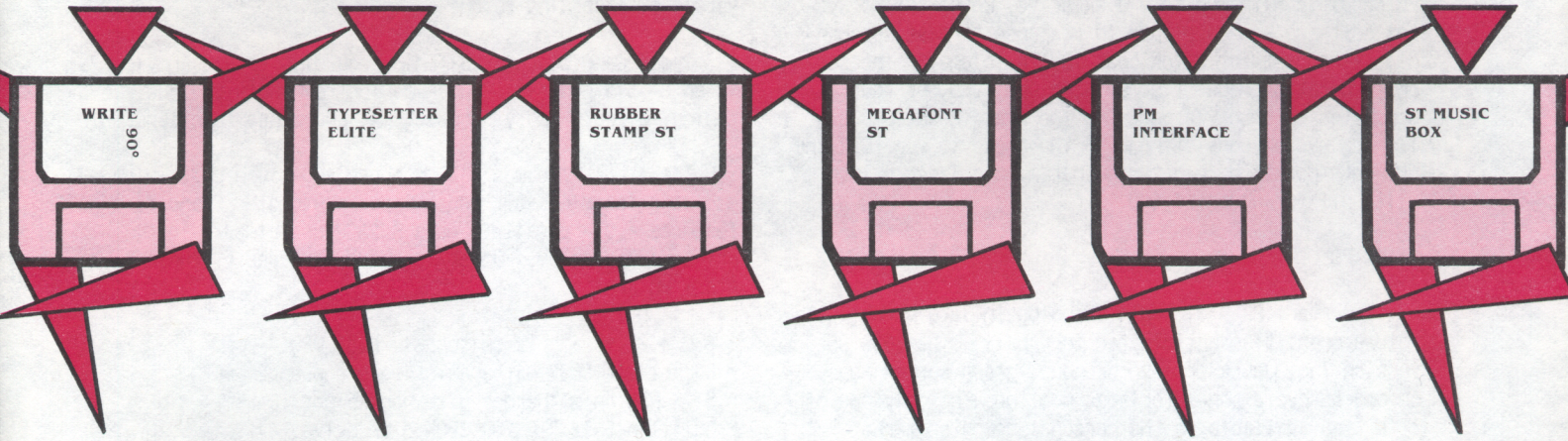
The Atari ST Software Line Up



WRITE 90°
$29.95 This package turns spreadsheets, text and screen output on their ear by allowing vertical formatted files to be printed sideways using continuous or single sheet paper. Incredibly useful for those over sized spreadsheets or flow chart style programs. Five character sizes are available. WRITE 90°is GEM based and supports Epson FX, SMM804, NEC, PROWRITER and compatible printers.

TYPESETTER ELITE
$49.95 Is a GEM based desk top publishing package that integrates text, graphics and DEGAS like drawing tools and allows for a full lay-out page preview and a what-you-see-is-what-you-get print out. TYPESETTER ELITE can handle custom fonts and icons; and ASCII files can be loaded into TYPESETTER ELITE pages. You'll be impressed with the high resolution and clarity of your printer output when it is driven by TYPESETTER ELITE.

RUBBER STAMP ST
$39.95 A utility that lets a user manipulate pictures from DEGAS and other popular graphics programs. RUBBER STAMP ST is useful for creating icons and printing out repititious full screen pictures, graphic address labels, index, Rolodex or other card sized output. RUBBER STAMP ST can add text to pictures in multiple sizes and styles and can load in fonts from DEGAS and MEGAFONT ST.

MEGAFONT ST
$39.95 Soup-up your printer output by designing your own fonts with GEM based MEGAFONT ST. Mix font styles to indicate italics or to provide emphasis. Arrange, space, position and size text and graphics in a document with MEGAFONT ST's click through "GEM" menus. MEGAFONT ST embeds graphics, text and fonts in the same file. Compatible with DEGAS, NeoChrome and the XLEnt Line Up of ST software, MEGAFONT ST also has a built in font editor. MEGAFONT supports SMM804, NEC, PROWRITER and EPSON compatible printers.

PM INTERFACE
$29.95 Is a GEM based driver that will enhance the utility of Print Master. PM INTERFACE allows Print Master to be integrated with DEGAS and the XLEnt Line Up of ST Software. You can use PM INTERFACE to create new Print Master graphics and borders using stored portions of DEGAS and other picture files. PM INTERFACE converts Print Master graphics into icons that can be manipulated by the XLEnt ST software utility Line Up.

ST MUSIC BOX
$49.95 A MIDI utility that lends graphics support and other administrative tweaking support to your composing. Allows for changing key and time signatures, inserts, deletes and copies measures. Prints high quality sheet music with the option of lyric and graphic notation. Compatible with an ST console or a MIDI synthesizer. ST MUSIC BOX is another MIDI progression from the authors of the Abacus book, Introduction to MIDI Programing for the Atari ST.

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WINTER C.E.S. REPORT
PC Clone, Mega ST, and Laser Printer Unveiled

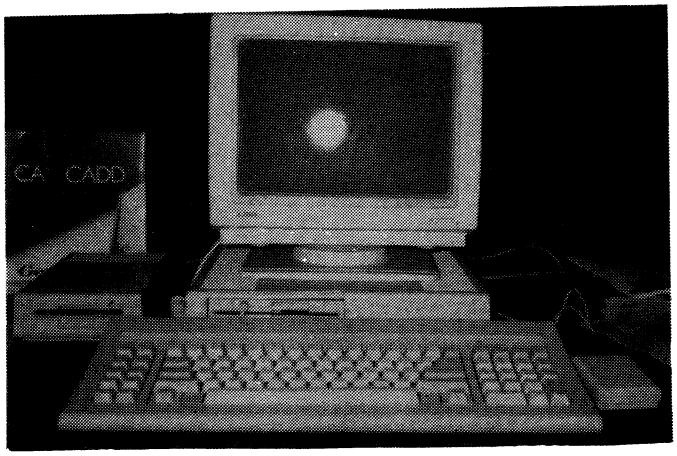
by George Langworthy

Las Vegas, Nevada -- January 11, 1987. Atari Corp. chose the Winter Consumer Electronics Show (CES) to announce three important new products. The $699 Atari PC complete with monitor, disk drive, keyboard and system software was developed in response to mass merchandisers request for a low-cost IBM PC "clone." The second generation Mega ST comes with one, two, or four megabytes of memory standard. The Atari desktop publishing system consisting of a two-megabyte Mega ST2 and 300 dots-per-inch, eight-page-per-minute laser printer will sell for under $3,000.

ATARI PC

The Atari PC will begin shipping in late March, with volume quantities anticipated for April. The $699.99 version includes a tri-synchronous, green screen monochrome 60-cycle non-interlaced monitor, the only one of it's type available in the personal computer marketplace. It can display IBM Extended Graphics Adapter (EGA) output with 16 (of a possible 64) grey-scale levels. EGA graphics boards alone can sell for as much as the entire Atari PC computer.

Shiraz Shivji, Atari Corp. Vice President for Research and Development said that two custom chips contribute to the low parts count and cost and high graphics performance of the Atari PC. A 100-pin graphics custom VLSI chip performs all video functions. These are IBM Monochrome Display Adapter mode (MDA), Hercules graphics mode (HGA), IBM Color Graphic Adapter mode (CGA), and the high-resolution Extended Graphics Adapter Mode (EGA). The monitor is attached with a standard IBM 9-pin plug, so a wide variety of standard color monitors could be used. 256K of dedicated display RAM is standard.



Atari Corp. did not announce a color monitor for their "PC" because of the availability of low cost CGA monitors and the higher cost, high resolution EGA versions, according to one spokesman.

The second custom VLSI chip according to Mr. Shivji is an 84-pin general purpose device to handle the bus, timing, direct memory access (DMA) and other functions.

The Atari PC comes with a mouse and mouse port which emulates the Microsoft mouse input protocol. Standard features are a parallel and a RS232C serial port for printers and modem. Other standard features of the Atari PC are:

* 8.0/4.77 megahertz switchable 8088 CPU.
* Socket for 8087 mathematics co-processor.
* 512K RAM on motherboard, expandable to 640K.
* Built-in 5 1/4" DS/SD 360K disk drive.
* Microsoft MS-DOS 3.2 operating system.
* GEM Desktop from Digital Research bundled.

Optional features and devices available are:

* Standard Atari 14-pin plug for attaching 720K Atari SF314 3 1/2" disk drive.
* Standard connector to connect to Atari Corp. stackable 20Mb hard disk drive to be available at approximately same price as ST version.
* Expansion chassis which will accept normal IBM PC expansion cards available in the summer of 1987; three, four, or five cards, the number not determined as of CES.

The keyboard is a PC/XT layout with 84 keys, attached with an IBM standard 5-pin DIN plug. Only PC/XT keyboard input signals are recognized. However, an AT-style keyboard with separate keypad and cursor control groups from a third party supplier could be used.

The display backdrop for the Atari PC was made up of the cartons and binders of a large number of popular IBM PC programs. A spokesman said that the Atari PC had run "everything they tried so far, including all those on the display." It will be distributed through specialty dealers and mass merchandisers.

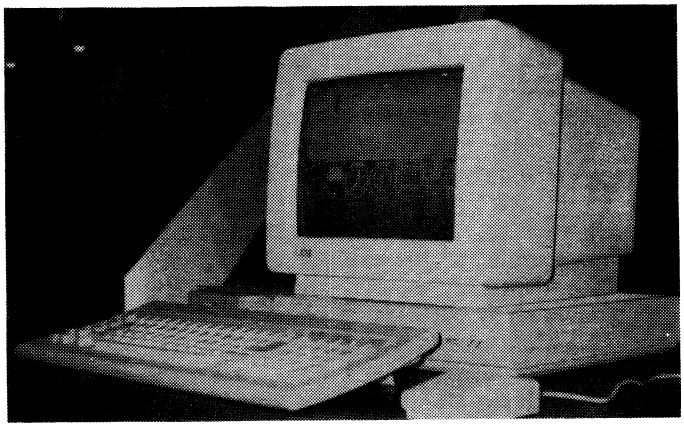
Maximum monochrome resolution is 720 x 348 pixels for the Atari PC. Maximum color resolution is 640 x 350 pixels with 16 colors on screen selected from a palette of 64. As mentioned earlier, there is 256K of dedicated display RAM, which makes the entire standard 512K of memory available for programs.

No specific plans for products built around the Intel 80286 (AT) or 80386 (32 bit) microprocessors were announced or discussed by Atari officials at a press conference on Thursday, January 8. They did state that additional IBM compatible products could follow as customer and dealer demand indicated. The Atari PC was developed in response to requests from mass merchandisers who Atari Corp. contacted about selling Atari computer products. This gives Atari a "foot in the door" to both mass merchandisers and computer specialty chains that have not been receptive to the Motorola-based 68000 ST series with it's non-standard GEM TOS operating system.

The IBM PC emulator box is still under development with a target price of $300 or less. This may or may not include a 5 1/4" drive. No date for release to manufacturing of the final product was announced.

ATARI MEGA ST

The second generation Motorola 68000 based computer has been named the Mega ST. It uses the 1 megabit RAM storage chips just now being produced in volume. Versions of one, two and four megabits will be sold. This includes a second version of TOS in ROM, 192K which with the 128K maximum cartridge size gives a total of 320K in ROM. This version will recognize a total memory of 16 megabits, so that the 4 megabit RAM chips now under development for introduction in 1988 could be used with no board design changes.



Expansions and additional features of the Mega ST are:

* Bit blitter processor for 5-10 x graphics drawing speed increase.
* Separate keyboard.
* Battery-backed real-time clock.
* Expansion bus for plugging in add-on boards.
* CPU, 720K 3.5" drive, power supply module that serves as monitor pedestal.
* Stackable 20 Mb hard disk drive that can be daisy changed (DMA out).
* GDOS support, though not in ROM.

Initial units are to be available in late March, with volume shipments to follow in April and beyond. Clearance by the FCC for Class B (home) radiation requirements has been a bottleneck for some other computer manufacturers, and US release of both the Atari PC and Atari Mega ST are dependent upon this approval. Both the Atari PC and the Mega ST enclosures appeared to be hard-tooled production models.

Pricing for the Mega ST was not announced at CES. The 2 meg system will sell for under $1,500. This is calculated from subtracting the under $1,500 quoted price for the Laser Printer part of the Desktop Publishing System from the total system price of under $3,000.

New prices for current ST products are:
(manufacturer's suggested list as of 1/15/87):

1040 ST Color	$1099	
1040 ST Monochrome	$899	
520 ST Color	$899	
520 ST Monochrome	$499	(promotion running through 1st Quar, 1987, list open

I guess about $1,100 for the one megabyte version, $1,500 for the two and under $2,000 for the 4 megabyte Mega ST. Prices for the 1 megabyte dynamic RAM chip are in a state of flux. The most recent Department of Commerce "fair market value" based on the costs of manufacture in Japan is estimated at $13. As true market prices drop under $10 in large volume, computer production costs equal and then become lower with 1 meg DRAMS than with 256K ones.

Atari's pricing philosophy continues to be to sell their computers at a modest markup over manufacturing cost. The Tramiels are known as very tough bargainers with component suppliers. They own their Taiwan plant free and clear. If they wait until just before delivery of the first Mega STs, they can calculate the costs at the lowest value, given the rapidly lowering prices of the one meg memory chips, as I see it. Then, they can price the new product as low as possible, still allowing their required margins.

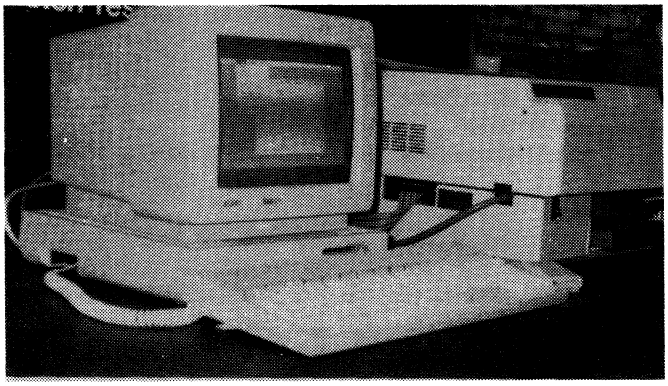
The Atari PC, the Mega ST series and the new enclosure for the 20 Mb SH205 hard drive appear to be identical. Atari Corp. has designed them to be stackable and to fit nicely into the office environment.

ATARI MEGA ST DESKTOP PUBLISHING SYSTEM

The Atari Desktop Publishing System is simplicity itself. Plug a laser printer engine into the Mega ST and go. The system was demonstrated with the very popular Canon LPB-CX. The two megabyte ST holds the bit-mapped image and the Motorola 68000 8 megahertz processor tells the laser beam printer what and where to print. Almost all high speed non-impact printers now

have a Motorola 68000 microprocessor with dynamic RAM memory making up the printer controller. Why duplicate this? Reduce the cost by having your computer do the controlling. Except for a data shifter and microprocessor control unit contained in a small box attached to the ST DMA port, all signal processing is done by the ST. The 10 megabit-per-second DMA port data rate is sufficient to drive the laser printer.

A full page of black and white graphics or photo takes over one megabyte to store. Add the memory space required for processing and you come up with a minimum of two megabytes for a combination computer/printer controller. I did not discuss using the 1040ST or 520ST as more limited Diablo or Epson emulating printer controllers, but it seems theoretically feasible.



The Canon print "engine" characteristics are: 300 dots per inch horizontal and vertical resolution, 8 pages per minute output, letter, legal and A4 paper sizes, transparency printing and automatic or manual single sheet feed. The laser printer output looked very good. A specifications sheet for the Atari PC and a block diagram of the Desktop Publishing System were being printed and handed out from the demonstration system.

First deliveries will be in late March or early April 1987. A conversation with the developer of SoftLogik's *Publishing Partner* revealed that printer drivers for the Atari ST Desktop Publishing System will be ready by the time it ships. This software combines word processing, graphics and layout.

The price for the 2 megabyte Mega ST, monochrome monitor and the laser printer is under $3,000. PostScript, a page description language sold by Adobe Systems of Palo Alto, California is not supported by the Atari Desktop Publishing System. One reason for this is that Adobe licenses PostScript to the printer manufacturer, who then "bundles" both hardware and software to make PostScript run into the printer controller. As the Atari version of the Canon LPB-CX has no electronics, this can't be done. There are other font-drawing software programs available, and perhaps third parties will either bundle PostScript or develop alternate ways to accomplish results similar to that of PostScript.

The laser printer will be sold separately for under $1,500. One possibility is that third party printer manufacturers or system integrators will offer high speed non-impact printers with the Atari Mega ST line. Versions of all major engines, Canon, Ricoh, BNEC, Casio, and others are sold OEM as video input only printers for 2/3 to 1/2 the price of the units with microprocessor and memory electronics built in. Both initial price and operating costs competition is furthered by having a way to drive a printer without designing and manufacturing special purpose electronics boards. Late 1987 could see the price of a 4-page-per-minute non-impact page print fall to under $1,000 from Atari or third parties.

During the four days of CES the Atari booth ranged from busy to jammed. In addition to the products mentioned, some 20 software booths, a MIDI demonstration area, a 65XE/130XE display and a 2600 and 7800 video game area were showing almost all Atari hardware and much software. The booth was located right at the entrance of the West Hall, where it could not be missed by anyone visiting that building. All in all, a very successful show for Atari Corp. took place in Las Vegas, January 8-11, 1987.

FINAL COMMENTARY

What did we business, desktop publishing and engineering types ever get from those beardless computer gamers of the late 1970s and '80s?

The Atari Corp offerings in the Atari PC, Mega ST, and "brainless" laser printer show the heritage from the gamer. The ability to manipulate objects, handle high sweep rate video signals and do so with economy of hardware and software are all evident. One 100-pin chip in the Atari PC handles MDA, Hercules, CGA low res and EGA high res IBM standard graphics. Late in 1987, the introduction of the consumer mass market CD-I, Compact Disc - Interactive, will accelerate the trend to providing TV pictures, graphics, and audio to the now standard computer-generated text display.

Why can Atari Corp. and Commodore, now calling itself by it's corporate name Commodore Business Machines, do so much better than IBM or even Apple? IBM color graphics are expensive. The IBM EGA card is more than the entire $699 Atari PC computer, drive, monitor and operating system software. Apple will introduce a color Macintosh this spring, but at 2-3 times the price of the Atari 520 ST color. I think Atari will do well because Atari people, who founded Commodore and designed the Commodore 64, learned to handle bit-mapped graphics, high video sweep rates and resolutions, and economical manufacturing in order to compete in the video-oriented cost conscious games marketplace.

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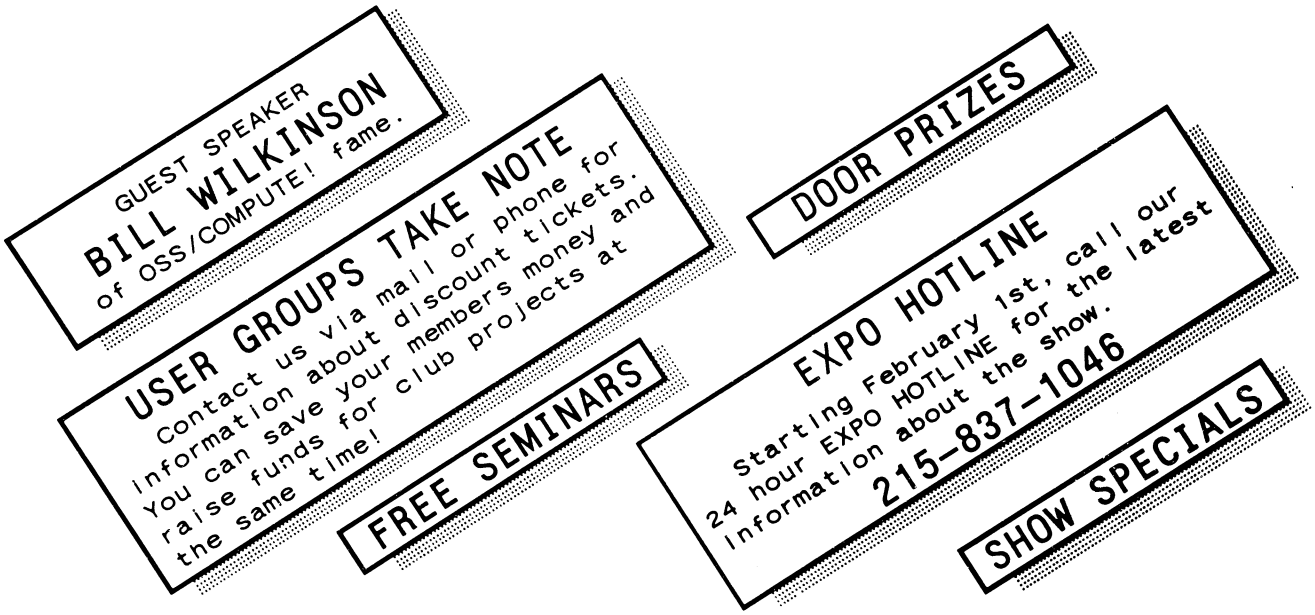

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WHAT CES WAS LIKE FOR ME

by Dave Small

Well, I attended CES in Las Vegas in early January. I'm sure you've read the press reports about Atari's IBM compatible PC, laser printer, and so forth. However, I thought a little human perspective might help you put things in their proper place.

CES is held in Las Vegas, so the first thing you do upon arriving is kiss your sinuses good-bye. It's so dry the moisture is sucked out of your body; the first thing you must do is buy chapstick, and use it. (I've been getting smarter; I generally run a bathtub of hot water to steam up the room before retiring at night). Still, by the time you get back home, it feels like you have pebbles packed into your nose.

It's held primarily in the Las Vegas Convention Center, a large center next to the Hilton. Because the show is so big, it spills over into the smaller ballrooms across town -- the Riviera, Sahara, and the like. You have to ride buses between the various hotels, because they really aren't within practical walking distance.

CES stands for "Consumer Electronics Show". This means that if it's a consumer product remotely related to electricity, it's there. Microwave ovens. Toasters. Stereos. VCR's. And so on.

Outside, there are the Car Stereo Competitions. These are where various car stereo makers take an entire car, pack it full of speakers and amplifiers, and turn them up in competition. They have to bring power cords outside to keep from draining the vehicle's batteries; believe me, they're *loud*. We're talking first row at Van Halen loud. Remarkably, people even sit in the cars while the reps are doing this.

Nor are the cars in the least practical, with every available inch full of drivers and amps. Some of the vans there had the entire van body full of equipment.

Walk through the convention center, and some idiot will be demonstrating a car burglar alarm as you walk by. Your ears will bleed for the next ten minutes. Or have some bubbly blonde wearing nearly nothing run up to you (seeing the "Press" badge) and hand you literature on a VCR tape of a fish bowl. (You play it on your TV and it's like having a fish bowl where your TV was. Oh, excitement.)

Eventually, you go into sonic shock, a slightly numbed daze. You head for West Hall, where all the computer stuff is. You've walked about a mile already (no kidding).

Atari's got their booth divided up into sub-booths, each with a different software manufacturer in it, demonstrating software. This results in a packed-appearing booth, since they've crammed so many people into such a small space. (Hence, "The Atari Booth was the most packed of the show" -- the line always heard at Atari shows).

Off to one side, here's Richard Frick and Jim Tittsler showing off the Atari PC. It's running *Flight Simulator*, a program that stresses a PC's compatibility. It looks like your average clone, although the EGA compatibility is certainly nice at Atari's price. Personally, being a hard disk addict, it doesn't turn me on; there's no easy way to plug a hard disk in. (You have to get an expansion box, and so forth). And, sorry, the product isn't available yet, but should be shortly.

Then, there's the Mega ST's, which are just an ST with a different circuit board layout for more memory. They use either 256K or 1 meg D-rams on a square motherboard. I got to see one of those opened (one that broke), and inside were wire-wrapped prototyping boards plugged into the motherboards. Looks like a typical late-for-the-show frenzy. Dave Staugus is showing off a 4-meg ST driving a laser engine; Dave's a long-time Atarian (he did the "E" rom for the 810 disk drive, if you know about that). He also did the *NeoChrome* program.

Dave looks tired; in fact, most of the software engineers do. Lots of late nights getting demos ready for the show, I gather. Over here's Landon Dyer, who wrote a big chunk of the ST's operating system, complete with dark circles under his eyes. Jim Eisenstein, too, with a fake badge (maybe he doesn't like groupies?).

Still, it's remarkable that Atari brought the software engineers to the show. That's a first, as far as I know, and it shows that Atari is doing well; otherwise, they'd just bring the sales people.

John Skruch is showing off 8-bit machinery; not much new here, except.. is this a Laser Tag 130? A repackaged Atari home computer, in game computer plastic, complete with a pistol and cable. Hmmmm.

Looking around the show, there were a remarkable number of games and game machines. Nintendo. SEGA. Commodore. Yes, Commodore came to the show as well, complete with a roped-off upstairs section where they showed new machinery to a Very Few. I wasn't one of the Few. I didn't want to be.

Video games really are on their way back. No one expects them to be as big as they were in the 1982 days, but they do seem to have recovered from the slump they were in. It was a boom, then bust, industry; now, it's making a gradual climb again.

I walked over to the Electronic Arts folks, who are well known to gamers. Gold chains. Open shirts. People named "Sid". Bad imitations of cliche Hollywood producers. Conversations like, "Can we do a deal? Let's do lunch. Sid, you're like my brother, you're like part of me. Could I hurt myself? We gotta have some trust here." I leave. Easy prediction for 1987: the crash of Electronic Arts, as artists leave it for other companies.

The usual stops -- Okidata's booth, subLogic, and so forth. Nothing new or especially interesting for me, although watching the people fall all over themselves at the sight of a "Press" badge has some amusement. By this time, my feet and knees really hurt. Time for a (gack) barbecue burger and Corona beer, and to put my feet up.

Return to the Atari booth. Seven terminals are tied together playing a maze game, where you attempt to shoot the other players as they try to shoot you, while wandering through a maze. Having nothing more constructive to do, I play for an hour, until my hands cramp. The folks at Xanth did this winner, and apparently Hybrid Arts is going to market it; it's a really great time.

People get a strange flicker in their eyes as you approach them. They look at your face, don't recognize you, look at your badge. Then, their eyes may light up, if the name rings a bell. In my case, they see the "Soldier of Fortune Magazine" T-shirt (truth!) and look twice. Then .. "Dave Small!, oh you did the Magic Sac, right?" Sometimes you meet people you've heard of, like Tom Hudson. Sometimes weary nods with people you've known awhile, like Gary Yost from ANTIC with his ever-present 3D glasses. (Pretty neat effect, really). And you endure.

Wander over and see the ANALOG magazine booth, with Diane Gaw (editor) grimly enduring people saying, "Oh, this is an Atari-only magazine? Sorry, not interested." Lee Pappas, the publisher, and Frank Cohen, from Regent, walk around together. The Batteries Included folk are showing off *Degas* (still), and will, if you beg them, show you a pre-release *PaperClip Elite*, which my buddy Dan Moore is writing. The conversation inevitably wanders around to how sore the feet are; offers of mutual foot rubbing are made only partly in jest. (Diane, are you listening?)

The low point of the show, for me, was examining Neil Harris' new beard. Ick. He really should stay out of the public eye for awhile with that one. Just kidding, Neil, but I'll fed-ex you a razor if you need one...

Even lower point: the Sahara hotel, where all the X-rated movies are. Various empty-eyed porn stars sign posters of themselves, or let you get a picture with them. The managers surrounding them are best described as scum; no self-respecting Hell's Angels group would let these folks in. Pot bellies, gold chains, hair transplants, endless talk of deals and money. I left soon; it was depressing. "Debbie Does Dallas: A New Beginning"...???! Aarrghh.

Around 5, the place begins to slow down. The press of the crowd fades; only the dedicated maze game players hang in there. At 6, a weary cheer goes up; another day endured.

Time for the hospitality suites. These are hotel rooms stocked by various corporations with booze and public relations representatives. They're fun because a) they're free, b) they often have food, precluding the need to pay for dinner, and c) they often have other company officials there, drunk, that you can get the real story out of. I suppose if I had less ethics I could run around CES getting some real good stories, but honest, by that time of day all I want is a place to sit, some Boodles gin, and tonic water, and light conversation.

Excellent hospitality suite: FTL games, which was showing off their 2-player aircraft combat game (3-D graphics), and the game *Dungeon Master*, which is going to be a major hit. *Dungeon Master* features everything you ever wanted in a dungeon maze game -- animated monsters, excellent graphics for the walls, ceilings, doors, and traps, mouse control of levels, various weapons, magic, and so on. I vainly begged them for a copy at the show; supposedly there's one on the way real soon. This one's hot.

Around 11 PM, and many suites later, I stagger back to the front of the hotel, hail a taxi, and head back to my place. Up at 9, and repeat the same thing.

That's what it's like for me.

Of course, what you'll read in the papers are quick product summaries, how Atari is going to cash in, and so forth. Me, I think Atari will do nearly anything that makes money; that's what they are into. The PC clone market is something they can apparently do well, given offshore manufacturing and such. And more memory for the ST's is a good move. The laser printer.. well, we will see what software they decide to use with it. (Verifiable rumour was Atari playing off various desktop publishing software makers against each other to see who would supply Atari with software for the package at the lowest cost.)

I think I'll buy some Atari stock. They'll do whatever it takes to make money and stay profitable, which is good for stockholders.

I don't think I'll go to CES next year, which is the same vow I make EVERY year at Comdex, the West Coast Computer Faire, and so on.

See you next January...

-- Dave Small

ACCENT ON BASIC COMPUTING
A Brief Introduction to Spreadsheets

by Ron Peters

Last time we explored word processing, and how it replaces your typewriter, scissors, paste, wastebasket and Xerox machine. Now let's take a look at the so-called "spreadsheet" programs and see what they can do for us.

Perhaps some of you have seen the traditional, green accounting ledger paper, with several columns across the top and 25-30 lines running top to bottom. The "bean counter" types use these ledger sheets for budgeting, inventory, and ledger purposes. A typical budget sheet would have the months of the year across the top, and line items (advertising, telephone, salaries, travel, etc.) running down the left side.

Then someone plugs in the dollar amounts for each item under every month, like the following (brief) example for a company we'll call Sicktemps (they supply sick temporaries to companies with lower than average absenteeism problems):

1987 EXPENSE BUDGET - SICKTEMPS, Inc.

Item	Jan	Feb	Mar	Apr	May	Jun	Total
Insurance	50	50	50	50	50	50	300
Salaries	100	100	100	100	100	100	600
Supplies	25	25	25	25	25	25	150
Telephone	10	10	10	10	10	10	60
Totals	185	185	185	185	185	185	1110

The above could easily be a home budget, or a listing of inventory items in different categories, or names and addresses, etc. In other words, the "spreadsheet" does not have to be just numbers, it can contain names, lists, text -- anything.

OK, back to the task at hand. Looking at the above spreadsheet it is obvious that the columns (down) and rows (across) are cross-totaled. Thus, you can easily see the total expense for each line item (e.g., insurance) and or each month, with a grand total at the lower-right.

If you are doing this budget on paper, and decide that supplies are going to cost $35 per month, instead of the original $25, you will have to erase all the numbers in that row, as well as all the totals, and do a lot of addition to get a corrected budget sheet.

Here comes the electronic spreadsheet. Instead of putting these numbers on a sheet of paper, you "type" then onto a worksheet in your computer. And, you set up the worksheet so that it will automatically give you totals for each row and column. Now, change the supplies amount to $35 and the program instantly recalculates all the totals -- before you can blink!

This feature also gives you the "what if" option; that is, the ability to change any of the data to see the results on the total. For example, if you were doing a home budget, you could ask "what if" my wife were to spend $300 per month instead of $1000 per month on clothes? The final results would be immediately calculated (but not admissible in divorce court).

"Big deal," you say. Well, it is a big deal if you have 120 columns and 234 rows, with a lot of changes to make. A computer with 512K of memory can typically hold a spreadsheet that would be 20 feet wide by about 40 feet high on paper. Try working on that within the confines of your 10 X 10 foot office!

"How do I look at that big sucker on my computer screen?," you say (again). Through a series of "windows" that allow you to look at any portion of the spreadsheet on your computer screen.

Each portion of an electronic spreadsheet (called a cell) can contain numbers, text, or formulas. The formulas can range from simple sums of columns (for example) to complicated algebraic expressions.

Any portion (or all) of the spreadsheet can be printed or saved on a floppy disk for later use. You can even create a "template" spreadsheet, which is nothing more than a spreadsheet with the labels and formulas, but without the actual data. For example, our budget template would have the row and column labels, and the total formulas, but no actual monthly dollar amounts. Then we could use the budget template over and over for different year budgets.

Some spreadsheet programs (like *LOTUS 1-2-3* or *VIP Professional*) can produce graphs of the data contained in a spreadsheet. Or you can transfer any portion of the spreadsheet to a document in your word processor.

Perhaps the most practical application I have found for using a spreadsheet at home is for doing my income taxes. Using a tax template (that purchased from the NOVATARI disk library) I can plug in all the numbers for each tax schedule and see the final results (hopefully a refund). Using the "what if" function here can be real fun!

Like a word processing program, you don't have to spend a fortune to get a good spreadsheet program that will more than do the job for you. I use *Synfile+*, which costs about $40. I'm sure there are a lot of other programs out there in the same price range that are equally as good. Shop around.

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ATARI'S SMALL MIRACLES
Show Off Your Atari's Graphics

by Mark A. Brown

Welcome back and Happy New Year from the column for lazy programmers (which is, from my experience, a redundancy). These quick & dirty programs can teach you new techniques, show you practical examples of programming, but above all they're just for fun.

This month's column is once again dedicated to an aspect of the Atari 8-bit computers people love to show off: graphics. These five quick programs give you still more examples of how the Atari computer is better than any other 8-bit home computer in its specialty. All the programs are the type in, RUN, sit back, relax, and enjoy type. There is no interaction in the program itself, you just watch 'em work. Hope you enjoy them!

ECHO

The first two programs this month are from Carlos Moctezuma of Alexandria, Virginia. ECHO is just a pretty program that really doesn't have any new techniques or algorithms, but it is in the new combination of tried and true ideas that ECHO comes through. Enjoy the effect!

```
10 GRAPHICS 7+16:Z=1
20 FOR C=1 TO 8:SETCOLOR 4,C,8
30 READ N:SOUND 0,N,10,15
40 FOR P=1 TO 15:NEXT P:SOUND 0,0,0,0
50 A=INT(80*RND(0)+1):B=INT(156*RND(0)
+1)
60 COLOR Z:Z=Z+1
70 DRAWTO B,A:IF Z=60 THEN RUN
80 FOR L=15 TO 0 STEP -0.5:SOUND 0,N,1
0,L
90 NEXT L:NEXT C:RESTORE :GOTO 20
100 DATA 91,121,72,64,121,81,60,121
```

VISIONS

VISIONS is, again, a pretty program with no real new ideas. But that hardly reduces its worth. It is a spectacular example of the Atari graphics 9 mode (one color with in sixteen levels of brightness at once), showing the shading effects possible. Try changing the 79 in the FOR statement in line 10 to a 39 for a slightly different effect, or just fool around with the plots and drawtos -- rearrange them, change the numbers, etc. See what visions of your own you can come up with!

```
10 GRAPHICS 9:FOR I=1 TO 79
20 C=C+1:IF C>15 THEN C=1
30 SETCOLOR 4,C,0:COLOR I/2.5
40 PLOT I,X:DRAWTO 79-I,X
50 PLOT I,190-X:DRAWTO 79-I,190-X
60 PLOT 79-I,X:DRAWTO I,190-X
70 PLOT 79-I,190-X:DRAWTO I,X
80 X=X+1:IF X>190 THEN X=0
90 NEXT I
100 FOR D=1 TO 700:NEXT D:GOTO 10
```

ONELINE1 and ONELINE2

These two programs were an exercise of mine to see how much I could fit on to one line of code. Obviously, one line does not a commercial program make, and you can't do a whole lot in less then 120 characters (even with statement abbreviations, which I used extensively). But some decent effects came out nevertheless -- both from using tricks of the Atari (the artifacting of colors of high resolution pixels, and the weird sounds that come out when you give a SOUND statement funny volume numbers!)

```
10 GR.24:POKE710,0:POKE709,15:F.X=0TO3
9:FORY=0TO191:POKEPEEK(88)+256*PEEK(89
)+40*Y+X,X+Y:N.Y:N.X:POKE87,0
```

```
0 GR.18:POS.3,4:?#6;"ATARI'S SMALL":PO
S.6,8:?#6;"MIRACLES":FORA=0TO255STEP0.
5:SOUND0,0,0,A:POKE708,A:N.A:G.0
```

MIRROR

Finally, the most complex (and least spectacular) program of this month. MIRROR simply draws lines on the top half of the screen that are mirrored on the bottom half. This was not as simple as it sounds, because instead of simply plotting the points twice, the display list was altered to mirror the data.

A quick lesson on display lists is in order, although a better and much more comprehensive lesson can be found elsewhere. A display list tells the computer how to display memory on the screen. It is a list (located by the pointer at 560 and 561) of "statements" that tell the computer how each line on the screen is to be displayed. Try this short program:

```
GRAPHICS 0:FOR A=0 TO 19:PRINT PEEK(PE
EK(560)+256*PEEK(561)),:NEXT A
```

This will print the display list of the graphics 0 (all text) mode. The three 112's beginning the list tell the computer to skip 24 blank lines so data won't be off the top of the screen. The next number is a combination: subtract 64 and you get 2, the number that tells the computer it wants a line of text. The 64 added on to it says that the next two bytes are a pointer to the screen data. And indeed, the next two bytes are a pointer and, for this discussion, are meaningless numbers. Each 2 following the address is another text line, and if you look at the whole display list (change the 19 to 30 or so in the one line program above) you'll count 23 of them: add that to the 66 before the address and you have 24 lines of text.

What MIRROR does is take mode 11 (in the above discussion, the 2 is our mode, a text line -- mode 11 is a one color line twenty bytes wide, or graphics 6) on each line and add 64 to it to make each line point to it's memory. For the top half of the screen this isn't really necessary, but when we get to the bottom half of the screen, we load THE EXACT SAME DATA into the lines, but in reverse order. So whatever is drawn in the top half of the screen will be repeated in the bottom half; the data is read on to the screen twice.

So after all that, it's kind of a let down just to draw lines and have them mirrored. But the technique is there; see if you can find a good use of it. Synapse's game Encounter uses it to the extreme, making all that fast motion possible because it only has to worry about half the screen. Let me know of any really good effects you can come up with, and enjoy it!

```
10 GRAPHICS 22:DIM A$(1000):FOR X=1 TO
 3:A$(X,X)=CHR$(112):NEXT X:Z=PEEK(88)
+256*PEEK(89):Y=0
20 FOR X=Z TO Z+960 STEP 20:B=INT(X/25
6):A=X-256*B:A$(Y*3+4)=CHR$(75):A$(Y*3
+5)=CHR$(A):A$(Y*3+6)=CHR$(B):Y=Y+1
30 NEXT X:FOR X=Z+960 TO Z STEP -20:B=
INT(X/256):A=X-256*B:A$(Y*3+4)=CHR$(75
):A$(Y*3+5)=CHR$(A)
40 A$(Y*3+6)=CHR$(B):Y=Y+1:NEXT X:A$(L
EN(A$)+1)=CHR$(65):B=INT(ADR(A$)/256):
A=ADR(A$)-256*INT(ADR(A$)/256)
50 A$(299)=CHR$(A):A$(300)=CHR$(B):POK
E 560,A:POKE 561,B:POKE 708,15
60 COLOR RND(0):DRAWTO 159*RND(0),47*R
ND(0):GOTO 60
```

Atari's Small Miracles is always looking for good programs that are under ten lines, and if you have any you are especially proud of, send them to:

Atari's Small Miracles
c/o Mark A. Brown
7097 Game Lord Drive
Springfield, VA 22153

And if the programs are good enough, you'll see you name and program in this column!

I'd like to note that I can type, so you do not have to send a disk unless you have an incredible number of programs. If you do send a disk (for either giving me programs or requesting a disk copy of one already published) please make it a single density disk, because otherwise it'll have to wait until I have access to a double density disk drive.

I'll see you next month!

BATTLE BYTES

Rommel: Battles for Tobruk

Review by M. Evan Brooks (c) 1986

ROMMEL, GDW's latest release in the computer wargaming market, retails for $40. The simulation covers the four major battles for Tobruk (*Brevity, Battleaxe, Crusader* and *Gazala*). The computer permits one to play either British or Axis or utilize a two-player option. Unfortunately, the computer does not normally play itself (this can be a valuable learning lesson); however, by timely saves of the game and resetting the options, the computer can be forced to play itself, although the mechanics thereof are somewhat clumsy.

The designer, Frank Chadwick, is a boardgame designer of repute. His previous design efforts are among the best in the boardgame field, e.g. *A House Divided, Operation Crusader, Fall of Tobruk, 8th Army*).

Rommel is extremely detailed, with options available of fatigue, supply, limited visiblity and air strikes. One may choose how many of these options to utilize; each adds realism to the simulation, but at a cost of playability. The basic problem is that a game may be very detailed and still playable; however, *Rommel* is rarely playable, and with the multitude of wargame designs available, this reviewer does not think that *Rommel* will receive a favorable reception.

The graphics are primitive, not state-of-the-art. The game was first shown in an early design stage at ORIGINS '85 (the National Wargaming Convention). Even then, this reviewer had reservations about the graphic representation. Four strategic maps are available (German positions, British positions, both positions and terrain). The tactical map shows only a portion of the playing area, and it is here that orders are inputted. The tactical map may be scrolled by joystick or keyboard; however, an unpleasant "flicker" effect is created and scrolling is limited to vertical and diagonal, not horizontal. GDW claims that this is because *Rommel* is one of the few computer simulations to use a true hexgrid, but the overall effect can be tedious. Turn resolution is accomplished on the strategic map; both movement and combat occur by amorphous pixels moving and having combat. This review may be saved, with a full game's saves becoming a virtual docu-drama. While this is a nice touch, the basic primitiveness of such resolution is questionable.

Even more important is the computer artificial intelligence. Depending upon the degree of complexity and options chosen, the computer may take anywhere from 3-15 minutes in order to decide how to act. This does NOT include resolution, but merely the computer deciding upon its strategy. As the programmer points out, in a two-player version, this is not a handicap. But, the vast majority of wargame simulations are played solitaire. Given that, the computer response time is totally inadequate.

Most of the time is spent with the artificial intelligence determining the front line. The programmer, Mark Miller, stated that *Rommel* takes a fresh look at the situation each turn. The program does not use a decision-tree branching analysis. This reviewer is not really certain of the advantages in *Rommel*'s approach; suffice it to say that the time delay outweighs any increase in realism.

The programmer noted that *Rommel* was composed of 38,000 source lines and 13,000 data lines. This is an extremely long program, using virtually both sides of the Atari disk version (for comparison, Microprose's *Kennedy Approach* is c. 17,000 lines in its entirety). Thus, there is a lot of information contained in *Rommel*; the flaw is that most gamers will not have the patience to dig it out.

The documentation is voluminous. However, there are two omissions: player hints are brief, at best and a bibliography is lacking. Mr. Chadwick has stated that the sources mainly used in developing the game were the official German and Australian histories as well as information he had gleaned from many prior design efforts in the boardgaming field. The map insert is extremely detailed and reminiscent of board wargames. Although GDW denies it, *Rommel* has the appearance of a board wargame adapted for the computer as an afterthought, and this appears to be *Rommel*'s primary failure.

Fatigue and visibility options add increased realism. The supply option is among the most detailed ever in a computer simulation, as are the air strikes. Supply can be traced from each corps HQ to its subordinate units; in the longer scenarios, this will drive one's strategy. This is correct -- the Desert War was a conflict of logistics; long periods of relative inactivity except for logistics acquisition were followed by short intensive combat which ended as the logistics chain became overextended. *Rommel* does an excellent job of recreating this aspect of the war.

Just as important are the Corps Tables. These portray enemy/friendly status. The most interesting facet of *Rommel*'s limited visibility is that the enemy Corps Table is, by necessity, incomplete; in effect, it becomes the player's G2 (intelligence and enemy order of battle). Only those enemy units adjacent to or previously in contact with one's forces will be revealed, and much of the information shown may be dangerously out of date. But such is the life of the commander!

Air strikes simulate tactical bombing raids. One must determine sorties and target prioritization, while keeping range data and changing battlefield conditions

in mind. Bombing raids mistimed are worse than useless; they can cause friendly casualties or even support an enemy counterattack. However, their proper use may well retrieve an otherwise doomed position.

Victory conditions are similar for each scenario. Generally, control of key terrain (especially Tobruk) coupled with a favorable combat kill ratio determine the victor. The German player must realize that Tobruk may often be unattainable; in that case, his tactics will be limited to forcing large British casualties. Similarly, the British player must examine the victory conditions and avoid the historical mistake of reacting piece-meal. Coherent strategic plans coupled with tactical expertise are the keys to victory.

Rommel permits multi-stacking in hexes. This will allow a proper *Schwerpunkt* deployment as well as maximum defensive positions. However, the player must carefully examine the hex to insure that he is aware of all units therein. Also, unless one is careful, horrendous traffic jams may be created that delay tactical implementation.

Overall, *Rommel* is an extremely detailed simulation. But the detail clutters playability to an unconscionable degree so that *Rommel* becomes an exercise in frustration. The designer and programmer were very helpful and cooperative in answering any questions this reviewer had. Their assistance is deeply appreciated, and this reviewer wishes that this review would be able to repay them in kind. But *Rommel*'s flaws will doom it to the back of most gamer's shelves.

GDW's previous computer simulation, *Chicamauga*, was favorably reviewed by Computer Gaming World (Jun-Jul 85). That review noted *Chicamauga's* success as being two-fold: physical implementation coupled with the design modelling the battle. Not all reviewers concur, and this reviewer feels that *Rommel* falls for the same reasons as *Chicamauga* only more so. Physical implementation and user friendliness are inadequate; these failures are of a sufficient magnitude to deter all but the most hardy from delving into the game.

This is a shame; it is apparent that much design time and effort went into *Rommel*. More was attempted than in most sim- ulations. But the lack of response time by the artificial intelligence coupled with the graphics cannot save *Rommel* from itself. Final RATING: ** (Buy only if interested in this period.)

UNDOCUMENTED FEATURE: *Rommel* has a feature not mentioned in the documentation, which may prove educational for the user. At any point one is in the OPTION SCREEN, pressing the "Shift-R" keys will allow the player to review the computer's move and modify it as one wishes (the programmer calls it the "ultimate cheat" key). Once this option is selected, it may not be turned off.

FROM THE TRENCHES. Gary Grigsby's latest wargame, is now available for the Atari. Much of the remainder of the market is quiescent at best, and few new releases are imminent. But if and when *GUNSHIP* (MicroProse) appears, buy it!

TIPS'N'TRAPS
First Aid for Atari Adventurers

by Jim Stevenson Jr.

I recently received a letter from one of the readers of TnT, MaryLou White. She has donated a complete set of solutions to the popular Activision game *Hacker*. Hopefully, over the next few months, along with the standard Q&A format, we'll reveal what she sent us. Also, Merlin's Litterbox has pulled through as being a new TnT source. Call it at (703) 250-7303. Also call Electronic Age at (703) 620-0851, and ARMUDIC at (703) 569-8305. If you don't have a modem, call me at (703) 378-4093. And, now for some more adventure snags.

ERRATA: -- ULTIMA IV <--

A. The location of the Mandrake Root is located at D'G''-L'G'', not D'H''-L'H''...Sorry Belikose. Also, when searching for either Mandrake or Nightshade during the two new moons, immediately start pressing "S" for "Search" several times very fast, so that you may find those ingredients about three times without waiting for another double new moon.

-Del Whetter
Eugene, OR.

HACKER

Q. I thought I was doing pretty well in Hacker until hitting a dead-end on the last lap. I can get all the pieces of the message, but I always run out of time on my way to deliver it to Washington. I don't think I've been dawdling, so how come I always get zapped? If I could get all the pieces without ever being spotted by the satellite, would it give me more time, or is there some other solution I've missed?

-Larry Franks

A. The secret to winning the game is not to beating the clock (which was also my original assumption). Also, being spotted by the satellites doesn't seem to have any effect. The real trick in winning is not to take more than a total of 173 steps from the start of the game to the finish at Washington D.C. If you make even one wrong step, it will add up to more than 173 steps so you must know the route and follow it carefully. You can take as much time as you like in playing the game. Speed is not a factor. Leave it to Activision to throw in a tricky ending.

-MaryLou White

PLANETFALL

Q. Is there food in the kitchen so that you don't starve? Also, are the goos in the survival kit simply food?

-"Red Baron"

A. There is food in the kitchen that you can put in the canteen. the goos in the survival kit are also food.

-"Dinty More"

Q. You mean you're supposed to put the food in the canteen? Do you ever get thirsty in the game?

-"Red Baron"

A. The food in the dispenser in the kitchen also quenches thirst (I think).

-"Dinty More"

ZORK II

Q. I get stuck in places like the oddly angled room, where the cakes are, and pushing the buttons, I don't know which button does what.

-"Wolverine"

A. The cakes are in the tea room, or something like that. One of the cakes makes you big, one makes you small, and one makes you explode. Experiment. The buttons control the carousel. One makes it go faster, one slower, and the other makes it stop. The oddly angled rooms have something to do with baseball. You have to run the "bases". Have you seen the "bat"?

-Bill Mehojah

Q. How do you get the key from the unicorn?

-"Sci-Fi"

A. There are some caves (I guess you know where those are), and one contains a dragon. Theres a person being held prisoner by the dragon. So, you have to defeat the dragon in order to free that person in order for that person to get the key and give it to you.

-Bill Mehojah

ZORRO

Q. What do you do with the bottle, and how do you get the horseshoe?

-"Crackerjack Kid"

A. You put the bottle by the farthest person at the bar. Then you get on top of him and jump up and down. When you get up to the top there push another person off and they will get caught on the chandelier and the thing at the bottom will raise and you go down there and get the chalice. But make sure you opened the door where the ball is. (For details as to how to do this, see last month's Tips 'N' Traps--J.S.)

-"Hot Rod"

CHAMPIONSHIP LODE RUNNER

Q. I was wondering how you get past the first screen. I can't get passed it.

-"Hot Rod"

A. To get past the first screen, you must first get the

two bottom lodes. First keep the two men on the opposite from you as you break down the wall on your side (delaying a little after the first segment), then run up and across the staggered floor, drop and get the lode, and rush to the opened ladder before the wall closes. Trick the men to your side and proceed to other side to repeat the operation there and get the second lode. Then get the men to come across the ladder/wire level and trick them into falling onto the lower level. From there they can't escape, and you can finish the screen without problems. Believe me, though, subsequent screens (particularly no. 9) are just as tricky, but that's what makes it so much fun!

-"Carlos Moctezuma"

OGRE

Q. What are you supposed to do to stop that tank?

-"Hot Rod"

A. When you set up the play field, you place armor and infantry divisions. In playing the game, the "menu" at the right changes from "defensive movement" to "attack" etc., during attack, fire artillery, etc. at the ogre.

-"Belikose"

HITCHHIKER'S GUIDE TO THE GALAXY

Q. I can't put the fluff together, so I just quit. Any ideas?

-"The Distorted"

A. You need to get the flowerpot from inside the whale, but to do that, you must get real tea to use as Brownean Motion. Also, DO NOT finish the War Chamber sequence until AFTER getting the flowerpot! Kill yourself if you show up there before getting the pot.

-"Nino Greasmanelli"

Q. After you wake up and get the babel fish in your ear, what word do you listen for in the Captain's poems, then what do you do to avoid getting him mad about it, then how do you get off the ship?

-"Dagor"

A. The word to listen for varies. You type [FLIP SWITCH] when you're in the hold because there's that keyboard with a switch. It will tell you to open it, type in the nth word from the SECOND verse of the captain's favorite poetry. The number of the word is random (usually 1-3) and the word is also random. To get to see the second verse (you must be masochistic!) type [ENJOY POETRY] when he's reading the first verse. You will then go back to the hold. Don't forget your gown and towel! Type [TYPE "insert appropriate word here"] and the case will open. [GET PLOTTER]. When you get thrown into the airlock, you can just wait it out (which is kind of funny) or you can use your thumb.

-"Nino Greasmanelli"

Q. I've gotten all the stuff to win, but the Buggblatter keeps killing me. Can someone tell me how to get past it?

-"Buckaroo"

A. Have you carved your name into the stone? When you are at his place, you have to carve your name into the stone. It makes the creature think that it has already eaten you, so it goes off and takes a nap or something. It's been a long time since I've played, so I really don't remember on what order you have to do what, but I do recall something about wrapping the towel around your head so that the beast won't see you (since you can't see it, it can't see you). Then write your name on the stone with a sharp rock or something, and type in quotes your name (the characters name.)

-"Belikose"

ULTIMA III

Q. Does any one know in witch dungeon and what level the mark of the snake is? That's the only mark I can't find.

-"Weird Al"

A. There is a dungeon on an island near the dungeon that is surrounded by lava. (I think its SE of B.'s castle). You can get there either by moon gate or boat. Go to the bottom level. Now, follow these directions to the letter, and they will take you to the rod (should take you). From the stairs, facing south, go 1 south, 3 west, 2 south, 2 east, 2 south, 6 west (2 "strange winds in there), 2 south, then east to the wall. Use a gem on level 8 and you will see what I mean.

-"Belikose"

Q. Okay, I am ready to go kill Exodus. I have the marks, cards, etc., but I can't get past the snake, even though I have the mark of the snake.

-"Weird Al"

A. If you have all 4 marks, go to the front of the snake. Hit "Yell" and then type in "evocare", "delcare", or "" depending on the copy (I think) when it asks what to yell. If all goes well, you should be teleported to the other side of the snake.

-"Barracks Rat"

ULTIMA IV

Q. What is the path through the maze on level 6 of the abyss? I've tried several times to get through and can't do it! Frustrating! I'm so close to finishing!

-Pete Kilcullen

Q. Does anyone know where the magic wheel is? Also I need to know some details about sheppheards, what weapons can they use, do they ever get to use magic, etc.

-Andy Patton

A. I don't know the exact coordinates of the wheel, but it's in the ocean. Somewhere down off to the right from Lord B.'s castle. You'll see light blue water surrounding dark water or something like that. I think that's where the wheel is. Maybe that's where the horn is. Anyway, just search there.

-"Red Baron"

Q. Does the whirlpool go somewhere like in Ultima III?

-"Red Baron"

SANDS OF EGYPT

Q. How do you get into the pyramid, if you're supposed to get into it at all?

-"Red Baron"

A. You hook the scepter that you got at the top of the pyramid to the bottom of the pool on that plug. You pull on the scepter, unhook, and take the scepter down with you to the underground tunnel.

-Jim Stevenson

A. It's somewhere in the desert, and you have to kill the snake for it, and put it in your canteen. (You get the water for it later on in the game.) From the very start, type "N, N, N, W, W, GET SHOVEL, N, KILL SNAKE, WITH SHOVEL, W, W, W, GET CANTEEN, N, FILL CANTEEN (WITH OIL FROM DEAD SNAKE)

-Jim Stevenson

ALTERNATE REALITY

Q. Has anyone been able to join a guild yet? I have tried and I can't seem to join one.

-"Hot Rod"

A. Personally, I have not been able to join any guilds, but I know this guy who says he did. He told me that he killed an apprentice as he was leaving a guild then went back in and there was room for him to join. He also told me that it takes a lot of gold to join.

-"Buckaroo"

HARDHAT WILLIE

Q. Is there any way to kill that Pac-Man guy? Also, I got all the caterpillars and eggs, now what?

-"Out of Data"

A. Yeah, the whirlpool goes to Loch Lake. The candle of love or something like that is back there in a town.

-"Dinty More"

Q. What is the candle used for?

-"Red Baron"

BOUNTY BOB

Q. Does anyone know some shortcuts for jumping ahead to different levels of "Bounty Bob Strikes Back"? I already know how to jump to the 5th screen from the 1st screen.

-Bill Godfrey

THE 1050 DUPLICATOR - REV. 3.0
You Can't Always Believe What You Read

Review by Rick Holtzhauer

Duplicating Technologies (DTI) has recently released it's long awaited Rev 3.0 for the 1050 Duplicator. According to Mike Carney of DTI, so advanced would this revision be that all Happy owners would "... have to throw their Happy Enhancement in the garbage... " (See CN Jul/Aug '85).

Hmmmmmmm? Would Happy Computers be facing the first serious challenge to it's total domination in the disk backup/high performance drive field?

Hardly! I found out very quickly you can't always believe what you read, as the Duplicator has in fact turned out to be perhaps the biggest lemon ever foisted on the Atari world.

The software revision came on two disks, and many Duplicator owners also needed an EPROM upgrade (this despite the fact DTI's advertisements claim "no further hardware upgrades ever needed". (I'm on my second EPROM; I've heard of some users on their third.) I've limited the scope of this review to the three main functions of the new software/hardware package -- the backup program, the sector copier and the handling of skew-aligned programs.

SKEW ALIGNMENT

The skew program is a binary load file that will backup disks that employ a protection DTI terms as a "light skew", or a "track skew". A track skew is a disk format where the position of one track is directly relational to the track preceding and following it. For example, take the skew used on *F-15 Strike Eagle*. When the time comes for this program to go into it's protection check, the onboard timers are set to zero. Then, the program reads, say, sector one of track two, track three, four, five, and six. The value of the timer is loaded and saved, reset to zero, and the program then reads sector one of track six, track five, and so on back down to track two. The timer value is again loaded, then compared to the timer value previously loaded and saved. If these values are not very close, the program will crash. On a normally formatted Atari disk, the time to read the first set of sectors will be much longer than the second set (at least on my drive). Thus, a valid protection program.

The track skew program on Rev 3 reproduces this skew extremely well. DTI claims the reason a separate backup program for skew was necessary is because ".... making a backup program of a skew disk is a much slower process than other types of protection ...." Not true. Though a skew backup does take quite a bit longer than a normal backup, the reason they made this a separate program is because DTI still cannot grasp the basic and fundamental aspects of backing up a skew disk. They had to write a specific program to format a specific skew. They could not write a program that could analyze and duplicate all forms of skew. For instance, Electronic Art's *Pinball Construction Set* (copyright 1983) uses what DTI terms as a "heavy skew". The Duplicator STILL cannot back-up this skew format.

Let's examine a much more serious flaw in this module. Let's examine a sector-skewed disk, or, more precisely, a disk formatted on the Indus GT in the Synchromesh mode. A sector skew is the way individual sectors are arranged inside of a track. Because the Indus drive is capable of transferring data much quicker than the 1050, this sector arrangement is different than the stock 1050. Although the capability to reproduce this type skew was promised in Rev 3.0, the Duplicator still cannot duplicate an Indus/Synchromesh formatted disk and have the disk run at optimum speed on the Indus. Now, of course, this capability is promised by DTI in the yet to come Rev 4.0.

This lack of skew capabilities is interesting when one realizes that every software house in America can successfully protect their products from the Duplicator's normal back-up module by merely formatting their programs on an Indus drive in the Synchromesh mode.

ULTRA SPEED HANDLER

The Ultra Speed handler, when used in conjunction with the sector copier, is DTI's answer to Happy Computers Warp-Speed sector copier.

The operation of this handler is, at best, very awkward. To load it, you must first load the menu disk, and choose the handler. The drive loads the handler, then instructs you to insert the disk to boot in ultra speed, and a coldstart is performed after about a ten second delay.

The speed handler can also be renamed AUTORUN.SYS, then copied back to Dos 2.5. Your drive will then operate in the ultra speed mode. There are a few problems using this speed handler in a DOS environment, though. First of all, the speed handler is 90 sectors long (vs. the nine sectors, I believe, for Happy's Warp Speed Dos 2.0). After it loads, another separate Dos 2.5 disk must be inserted, because the program jumps to the coldstart routine.

When I finally got my handler installed and DOS 2.5 back on the screen, I found the handler refused to read my disk directory. This is documented as an "occasion-

al" problem in the Rev 3 manual. The solution? Merely hit the BREAK key. But in operation this glitch is much worse than I could have imagined. Four times out of five, I could not read the directory, and ended up pounding on the BREAK key in sheer frustration. Overall operation of the ultra speed handler is totally unacceptable, the bugs and glitches making it nothing short of useless.

When using the ultra speed handler with the sector copier, the program read the source disk at an extremely high speed, but it appeared to write very slowly. As an experiment I inserted a *SPARTA DOS* skew-formatted disk in my drive. The write time now increased significantly, over five seconds faster than the Happy can do on a 360 sector copy. This implies that DTI's Ultra Speed handler was not designed well for its own system. It requires a sector skewed disk to efficiently handle high speed I/O writes.

SECTOR COPIER

DTI makes some incredible statements regarding the sector copier: "OUR sector copier has many excellent features. One of the most important is this program will go through all errors". They wrote and informed *Current Notes* readers (July/86) that "Our almost completed sector copier can reproduce a deleted data mark in ultra speed".

The sector copier will not reproduce a deleted data mark, and the copier module does not even appear to be DTI's product. The program is actually "SCOPY 810" lease 10, written by Craig Chamberlain and copyrighted by Alliance Software in 1982. It was released through several users groups, this particular version by The Jersey Atari Computer Group. The only difference is that the programming credits and copyright notice have been dropped. This may be demonstrated by using a sector editor and reading the first sector of the "HCOPY" file of the speed handler disk.. On the Rev 3 disk it is sector 210. At location $3A, you will find the byte sequence "4C 74 E4". Change this to "6C 0A 00". Now, load the sector copier and behold, the original "SCOPY 810" copyright notice appears! Seems their "almost completed" sector copier is actually over four years old! It will not handle "enhanced" or double density disks. Who had anything but single density disk way back in '82?

REV 3 BACKUP

My original review of the 1050 Duplicator, version 2.1, appeared in the June '85 edition of CN. Although DTI's response to this article indicated they were then shipping software revision 2.5, it wasn't until five months later that I received my copy of 2.5 with an EPROM upgrade. I found the performance of 2.5 to be pretty bad -- not much better than Rev 2.1.

As Rev's 2.1 and 2.5 were so disappointing, I expected great things of Rev 3.0 if it was to live up to its advance hype. It even promised the capability of backing up weak sectors, a format that Happy Computers, at the present time, cannot handle.

Alas, it was not to be. Copy capabilities of Ver. 3.0 are virtually nonexistent. It can handle a non-skewed, simple 18 or 19 sector track, which, incidentally, is nonexistent on any recent release. In theory, it may copy a 20 sector track by slowing the drive down to 270 rpm. It must slow down the drive to 270 rpm because the programmers at DTI apparently still lack the skill to manipulate the sector ID bytes so 20 sectors can be written at normal drive speed, as both the Happy and Archiver 1.0 (copyright: 1983) can do. The Duplicator can write a 21 sector track if the drive speed is set at 255 rpm, while the Happy and Archiver are set at 270 rpm.

But the ability to write a 20 sector track does not mean the ability to copy a 20 sector track, as the Duplicator so dramatically proved. I attempted to back up all my 20 sector disks, among them: *Silent Service*, *Kennedy Approach*, *Lode Runners Rescue*, *Koronis Rift*, and others. The Duplicator backed up nary a one. The program consistently wrote the wrong data in the wrong sectors, and lacked the ability to write a full, 128-byte sector with a CRC error (an Archiver fault, also). Amazingly, Rev 2.1 can back up *Koronis Rift*, but the Rev 3 could not.

The copy process is a good six minutes long, and there is no selective track copying; it's the entire disk or nothing.

The original Duplicator manual promises the backup program will run in the ultra speed mode. It does not. They also promise it will take advantage of the extra memory on a 130XE computer. It does not.

The reason this revision offered no improvement over Rev 2.5 has perturbed me greatly, and that's because Rev 3.0 IS Rev 2.5. DTI took the Rev 2.5 software, changed two bytes in it (Rev 2.5 to Rev 3.0), then released this as the Rev 3 "upgrade". Of course, DTI will claim the real upgrade was the EPROM. Wrong. According to the Rev 3 release letter, only "...some of our older customers will need the Rev 5 EPROM...". Which means quite a few Duplicator owners (like me) waited months for DTI to release software they already possessed.

MODULES

DTI has made some provisions for backing up software that the Rev 3 copy program cannot handle. These are copy "modules", and are loaded through a self-booting disk. The disk contains a list of ten programs that will backup disks that employ weak sectoring (*Never Ending Story*, *Goonies*) and the "trick" 20 sector format (*Silent Service*, *Fight Night*, *Sargon III*).

As an example, let's go through the backup procedure for "*Silent Service*". You are first instructed to copy

the program with the Rev 3 copy program. You then load up the module disk, and are presented with a menu containing the ten programs these modules can cover. I chose the appropriate module for *Silent Service*. After loading the module, you are instructed to insert the backup copy in the drive. After a few moments, the drive will do some writing, and the copy is done. The copy indeed booted and ran correctly.

However, as the backup program was loading little bells and whistles began going off in my head. Upon examination of the backup copy of *Silent Service*, I found out that the protection was not duplicated; the disk was broken -- the PROTECTION CODE WAS REMOVED FROM THE PROGRAM! Future copies can be made from this backup copy using any sector copier. In fact, the Rev 3 copy program is not needed at all, just do a sector copy of the original program and load up and run the module program.

I ran the *Silent Service* module again. When the computer instructed me to place my backup copy in the drive, I instead inserted a freshly formatted, blank disk. After the program finished writing to my disk, I removed it and did a sector to sector comparison between this disk and the original *Silent Service* program. I found that sectors 37-38, 42-46, and 48-56 were the same.

Interesting, I thought. Since the original disk is not read when the backup is being created, the only other place this data could have come from is the Silent Service module. Which means DTI is mailing me a part of the copyrighted *Silent Service* program, without, I feel safe to say, Microprose's permission.

This method of backup is in stark contrast to recent advertisements in ANALOG and ANTIC for the Duplicator. According to the ads, the Duplicator will: "... reproduce any custom format or heavily copy guarded scheme... Custom formats will be read and in turn REPRODUCED on the backup copy disk... We are now doing the weak sector, eg. *Never Ending Story*".

These advertisements would lead a potential buyer to believe the Duplicator will successfully duplicate the weak sector protection on the backup disk, which is not true.

I must also wonder how long these copy modules will be around before DTI starts getting hammered by the companies that market the software these modules cover.

INNOVATION

DTI claims they plan to write many new and exciting programs that will operate only on a Duplicator. They have been promising this for a year now, and none have materialized. DTI proved incapable of even writing their own sector copier.

COMMENTS

The method that DTI has chosen to "backup" the programs it could not actually backup angers me. I would like to discuss the ethical and moral aspects of any company releasing a program such as this.

For about the last year and a half, we have seen much more sophisticated and determined methods by software companies to protect their investments. They have, finally and permanently, turned the tables on disk backup systems. No more will you be able to slap a program into your Happy and give it to your buddy.

Happy Computers' Rev 7 allowed backup of these disks, though they must be run on a Happy drive. And with this, it seems as if we have hit a truce in the protection wars. Happy Computers allows the user to backup his software; the software house knows these backups won't be floating all over Atariland inasmuch as a Happy enhanced drive is required to run the copies.

Now we have DTI releasing a revision that will UN-PROTECT programs on the market. Products like this pose the greatest threat to the Atari 8-bit line.

When the Happy drive was first released, the protection battle was on. A new protection scheme would come out, and the Happy would copy it. Back to the drawing board, where yet a new protection scheme was devised, and on and on. But at least for the software house, there was always hope the perfect format could be devised. Eventually, as explained above, this hope paid off. But Atari users paid heavily. Some companies, rather than get caught in this war, chose to abandon the Atari line. Atari versions of some programs were not released until a suitable protection format was devised.

Though the software houses eventually beat back the Happy challenge, they cannot beat back this challenge from DTI. It is virtually impossible to write the protection code that cannot be broken. To write this protection would probably take as much effort as the program itself took.

No doubt, Happy had the foresight to see that releasing a program similar to DTI's would not be beneficial to the Atari world. So the backups were designed to operate only on the Happy drive. A company called C.S.S. Software out of New York markets a device called The *Impossible*. This program will take a protected disk and rewrite it without the protection. But this program would only operate if a special cartridge was inserted into the computer.

By adopting their approach to "backing up" heavily protected programs, isn't DTI actually advocating disk piracy? Let's take another look at what they're doing.

When Microprose released *F-15 Strike Eagle*, it employed a new protection twist. It required the user to

enter an access code for the game to operate correctly. These codes were scattered throughout the users manual. No manual, no play. You must purchase the program to get the manual, unless the manual was also illegally copied. Since the codes were simple, though, you could just write them down on a piece of paper.

Then along came *Silent Service*. Instead of using simple number-letter codes, the program instead drew four very similar ships on the screen. The user then had to compare these with ships scattered throughout the users manual, and choose a correct match. This is no piece of cake. To this day I am still entering the wrong code, even with the manual open in front of me.

But DTI, in addition to stripping away the disk protection, has eliminated the subroutine that calls for the authentication code to be entered. Now, what reason on earth would they have for doing this?

To further complicate matters, consider the process DTI used in creating these backup modules. In theory, you must have a Duplicator to use these backup modules.

When a backup module is chosen from the menu and after the file is loaded, the program then stuffs a $62 into location $302 (DCOMND). It then does a JSR to location $E459, with communication between the drive and the computer then taking place. The value $62 I think is a poll of some sort, like an "are you there?" request. Only a Duplicator responds to this disk command, no other Atari drive will. If the answer from the drive is positive, normal operation of the backup module resumes. If the answer is negative, the program aborts, and a "Duplicator needed to operate", or words to that effect, are printed on the screen.

So I had an idea. Instead of using the value $62, I substituted the value $53 instead. This value is the drive status request command, a command every Atari drive must respond to. As required, the drive did indeed respond. The backup module took this to be a positive response, and the program proceeded as it should, and the backup was completed as normal. Except I was using an Indus drive. Uh oh...

I next did a sector search of the entire backup module disk for the byte combination A0 62. This combination showed up eleven times. I found if I changed each of the $62 to a $53 and rewrote the sector back to the disk, these modules would operate on any drive. Meaning I could do a sector copy of *Silent Service* on my Indus, load up the copy module on the Indus, and have the Indus create a working copy. No $152.45 Duplicator needed!

I chose to include the above information in this review only after long thought, and then only because of the simplicity of finding it. Inside of five minutes. But since it was so simple for me, it was also simple for many other users. Now, how long do you think it'll take before these modules, allowing for operation on any drive, to start appearing on bulletin boards all over the country?

SOLUTION

Though there may be many solutions, there is only one in my book. Atari users must clean their own house.

I've read until I am blue in the face letters and editorials condemning disk piracy. But it seems the same magazines that run these editorials and letters on one page, carry full page ads for the Duplicator on the other. This makes no sense. This is not a backup device. It's too easily adaptable to true pirating purposes.

Actions, however, speak louder than words. Seems to me that it's the responsibility of all Atari owners to write ANALOG, ANTIC, and COMPUTE! magazines, condemning this backup method and urging that all advertisements for the Duplicator be dropped until an alternative method of backup can be achieved. And to kill two birds with one stone, send a message to all software houses at the same time.

Failure of the Atari community to take any action and allow the Duplicator to flourish will also send a message to software houses, and to many hackers. I consider myself fairly good at breaking protected disk. Does that mean I, and many others, can get in on a piece of the action?

SUMMARY

Inferior in all respects. DTI has failed to deliver on virtually every single promise made for Rev 3, and instead delivered a very crude and amateurish attempt far outperformed by even the Archiver. It should not carry a $49.95 price tag, much less the $149.95 they ask for it. I do not like this company. I do not like this product.

ERRATA: My review of the Happy Rev 7 (CN OCT86) incorrectly stated that the Warp Speed DOS could be used on DOS 2.5. It cannot.

Interested readers may write to me at the following address: Rick Holtzhauer, NEESA, Port Hueneme, CA 93043

(XE Editor's Note: When Rick returned to his base in California after spending the Christmas holidays in Virginia, he found a letter from DTI awaiting him. DTI's letter announced that their Revision 4.0 was now available to 1050 Duplicator's owners at a cost of $13.95 plus shipping and handling. The letter states, in part, that

"... our Module creator is enabling us to get our revisions out much more quickly and efficiently. We now have the technology to backup any form of protection on

the market today. Even disks protected by hardware keys that must be present in the joystick ports offer no problems for the Duplicator.

The module program will remove the protection from the copyguarded disk allowing our customers to make backup copies of their valuable software and these backups you make can now be sent over the phone lines by modem...

We have pledged to our customers that whatever the software manufacturers DO, WE WILL UNDO ...

There are over 100 modules on this 4.0 Revision ..."

DTI's letter acknowledges at least one of the points Rick sets forth in his review. DTI has removed the protection code from their "backup" copies made using their "Module" system. The DTI disk containing the individual modules apparently contains original code, copyrighted by the targeted program's publisher, which is written to the backup copy. I'll leave the morality and legality of this approach to those more versed than I in the arcane convolutions of copyright law, but I suspect DTI will not go unchallenged.

Shortly after Rick's first article on the 1050 Duplicator appeared in CN last June, I received information that DTI had been shipping an unmarked copy of ICD's *SpartaDOS* with the initial Duplicator packages without authorization from ICD. I called Tom Harker of ICD and he confirmed DTI had been shipping unauthorized copies of *SpartaDOS*. He said he had reported that matter to the FBI, but that they refused to take action in such cases unless at least a half-million dollars in losses was involved. Harker said he then discussed the matter with his own attorneys who advised that it would cost at least $30,000 to pursue a copyright infringement charge against DTI. Harker said he threw up his hands in disgust, and gave up, but characterized DTI's practice as "outright theft".

It might be easy to leap to the conclusion that DTI is also using Craig Chamberlain's sector copier module without the author's permission. But one who leaps to conclusions frequently lands with his foot in his mouth and, inasmuch as I've been unable to locate Chamberlain for his comments, it's probably best to give DTI the benefit of the doubt.

Each of us probably has reached his own judgement with regard to the practice of "backing-up" commercial software. Personally, I see nothing wrong with it as long as the "backup" copy is used as just that -- a "backup" copy to be used if the original develops terminal illness. "Back-ups" should not be given to your Aunt Tillie, the little kid who lives down at the corner, or your buddy who works in the next office. That's not just immoral, it's also illegal. And for the life of me, I can't think of a single reason why I might need a "backup" with the protection scheme deleted and access software codes removed so I can send the program to someone else via modem.)

TURBO BASIC COMPILER XL/XE
An Outstanding Public Domain Program

The Western New York Atari Users Group has released a double-sided disk crammed with public domain programs which has taken the Atari community by storm. The disk features TURBO BASIC for XL/XE computers, a compiler and runtime package for programs written in TURBO BASIC, MAGIC (a "Koala-type drawing program written in TB), several TB demo programs and TEXT TIDIER, a TB program written by Dave Yearke, which "eliminates much of the editing that goes into processing files downloaded from such services as CompuServe." Full docs are included on the disk.

The prize in this package is TURBO BASIC, as you'll see after reading the following two articles. WAACE members should find this disk in their group's library by the time this appears in print. Other users groups may obtain the disk by sending $15.00 to the WNYAUG, PO Box 59, Buffalo, NY 14216.

Jack Holtzhauer
XL/XE Editor

Review of Turbo Basic

by Mark Dulcey

(Reprinted from the Jan '87 edition of A-BUG, the newsletter of the ATARI BOSTON USER GROUP)

Turbo Basic XL is a public-domain BASIC interpreter from Germany. It was written by Frank Ostrowski for the German magazine HAPPY COMPUTER.

The command summary lists only the new commands of Turbo Basic. Turbo also supports all the commands of Atari BASIC, and will load SAVEd Atari BASIC files. Turbo programs will load into Atari BASIC if none of the new commands are used.

Many of the new commands will be familiar to users of BASIC XL and BASIc XE. Turbo is not identical to either of those languages, however. Some of the new commands have the same syntax, and others differ. Turbo has commands that the OSS BASICs lack (CIRCLE and PAINT, for instance); the OSS languages have commands that Turbo doesn't (player-missile graphics, for one).

Turbo pays no attention of LOMEM; you get the same amount of space no matter what DOS you use. It is incompatible with the 850 RS-232 handler; the BASIC program loads over part of it.

You can also have 256 variables in your program, instead of only 128. Statement labels count as variables.

Since Turbo uses the space under the OS ROM, it will not run on a 400 or 800. It is incompatible with under-the-ROM and under-cartridge DOS systems.

There is also a compiler for Turbo BASIC, and it is also public domain! The version currently available has all its prompts in German. An English version will be available soon.

The compiler will handle most BASIC programs. None of the immediate commands (LOAD, SAVE, etc.) will compile; nor will FOR loops with more than one NEXT statement. The compiled code is larger than the BASIC source, so some big BASIC programs can't be compiled.

Turbo Basic XL is an outstanding public-domain program. If offers many of the best features of other extended BASICs, plus a few of its own. It is fully compatible with Atari BASIC, and very fast. The price is right, too. I recommend it to all XL and XE owners.

I tried some simple benchmark programs on various BASICs to compare their speed. Turbo BASIC is a very fast BASIC interpreter; it turned in times comparable to BASIC XE. The compiler is even faster.

The BASICS tested were Turbo BASIC XL version 1.5, BASIC XE version 4.1 with extensions 4.11, and Atari BASIC Rev. B. Three times are reported for BASIC XE. The FAST time is with the statement 0 FAST added to each program; the SLOW time is without that statement. The BARE time was run without loading the extensions file. (BASIC XL in slow mode will be about the same speed as the BARE times for BASIC XE. FAST mode times will be slower than the BASIC XE FAST times. BASIC XL with a FASTCHIP installed will be about as fast as BASIC XE.)

BASIC	1	2	3	4	5
Turbo BASIC XL:	56.0	41.5	58.1	59.4	43.5
Turbo compiler:	54.1	26.7	12.5	12.5	20.7
BASIC XE FAST :	61.6	57.1	41.2	43.7	42.5
BASIC XE SLOW :	61.8	62.2	51.2	5790.0	64.4
BASIC XE BARE :	237.0	70.8	97.6	5820.0	83.6
Atari BASIC :	237.0	109.9	163.2	6060.0	104.5

Test 1: Savage 500. This benchmark is a version of the Savage floating-point benchmark. This version was scaled down to 500 iterations (instead of the standard 2500) to stay within my patience limits.

The times on this test are determined almost totally by the speed of the floating-point code. Note the nearly identical times turned in by BASIC XE (without extensions) and Atari BASIC.

Test 2: FOR loop. This one is very simple; a FOR loop that goes around 50,000 times.

```
1 FOR I=1 to 50000:NEXT I
```

Test 3: GOTO loop. This uses a different sort of loop; a GOTO statement in an IF. This loop goes around 20,000 times.

```
10000 I=0
10010 I=I+1:IF I<20000 THEN 10010
```

Test 4: GOTO loop part 2. This is the same as test 3, except that there are 5000 REM statements added to the beginning of the program. The long times in the table were gotten by looping 200 times and multiplying the run time by 100. This test shows the time spent searching for the line to branch to. The results suggest that Turbo preprocesses line numbers in a manner similar to FAST mode in the OSS BASICs.

Test 5: DISASM.BAS. I ran the program DISASM.BAS, a public-domain disassembler. I diassembled the locations $0711-$087F to the screen.

Turbo Basic Command List

Compiled & Translated by
Dave and Laura Yearke

Turbo BASIC, in addition to offering 42 more commands and 22 more functions that Atari BASIC, gives the user 1603 more bytes of program space by "hiding" part of itself under the XL/XE's operating system. It also runs 3 times faster than Atari BASIC, includes most DOS commands, has advanced graphics and programming functions, and is insensitive to lower case or inverse characters for most commands.

TURBO BASIC COMMANDS

Disk I/O

BLOAD "D:name"	Binary loads file
BRUN "D:name"	Binary load and run file
DELETE "D:name"	Deletes file
DIR	Directory drive 1
DIR "Dn:*.*"	Directory of drive n
LOCK "D:name"	Lock file
RENAME "D:old,new"	Renames file
UNLOCK "D:name"	Unlock file

Graphics

CIRCLE x,y,r	Plots circle at x,y with r radius
CIRCLE x,y,r,r2	R2 is optional vertical radius for true circles or ellipses
CLS	Clears screen
CLS #6	Clears screen opened to channel #6
FCOLOR n	Determines fill color
FILLTO x,y	Fill command (XIO 18)
PAINT x,y	Fills closed object
TEXT x,y,a$	Bit-blocks A$ at x,y

Memory

DPOKE m,v	Pokes location m,m+1 w/2>byte integer
MOVE m,m1,m2	Block transfer; moves bytes (m2) from m to m1
-MOVE m,m1,m2	Same as MOVE, but copies starting w/last byte of block
BPUT #n,adr,len	Block Put
BGET #n,adr,len	Block Get
%PUT #n,a	Puts numeric values to device in 6-byte FP format
%GET #n,A	Gets number stored with %PUT and stores it in variable A

Structured Programming

REPEAT	Starts REPEAT/UNTIL loop
UNTIL <c>	Terminate when condition <c> met
WHILE <c>	Start WHILE/WEND loop to end with <c> is met
WEND	Terminate WHILE/WEND loop
ELSE	Optional extension for IF
ENDIF	Ends IF/ELSE/ENDIF of IF/ELSE condition
DO	Starts an "infinite" DO loop
LOOP	Cycle back to start of DO loop
EXIT	Exit DO/LOOP loop
PROC name	Start definition of procedure
ENDPROC	End definition of procedure
EXEC name	Execute procedure NAME

General Programming

PAUSE n	Pause for n/50 seconds
RENUM n,i,j	Renumber at line n, first number i, increment j
DELETE n,i	Delete lines n-i
DUMP	Display all variables and values
DUMP name	DUMP to device, i.e, "P:"
TRACE	TRACE program during execution
TRACE -	Trace off
DSOUND n,f,d,v	Form of SOUND which activates channel-pairing for increased frequency range
DSOUND	Turns all sound off
GO TO n	Alternate form of GOTO
*L	Turn line-indent on (Default)
*L -	Turn line-indent off
*F (or *F +)	FOR/NEXT loop (special)
*B (or *B +)	Allows trap of break key
*B -	Turns off break key trap
--	Special REM; adds 30 dashes in program listing

Line Labels

# name	Assigns current line number to label name
GO# name	Analagous to GOTO command

Modifications

CLOSE	Closes channels 1-7
DIM a(n)	Automatically assigns zero values to

	all numeric arrays
	Automatically assigns null characters to all elements of a string
GET name	Wait for keypress and assign value to NAME
NAME	Same as "OPEN #7,4,0,"K:":GET #7,name:CLOSE #7"
INPUT "text";a,b..	Prints TEXT as a prompt before asking for variable(s)
LIST n	List program from line n to end
ON a EXEC n1,n2...	Variation of ON...GOSUB for procedures
ON a GO# n1,n2....	Same as ON...GOTO for line labels
POP	Pops the runtime stack for all four types of loops
PUT n	Same as "PRINT Chr$(n);"
RESTORE #name	Restores data line indicated by label NAME
RND	Parentheses no longer needed
SOUND	Turn of all sound
TRAP #name	Traps to line represented by label NAME

TURBO BASIC FUNCTIONS

Arithmetic/Logic

HEX$(n)	Convert n to hex string
DEC(a$)	Convert hex string to decimal
n DIV i	Integer quotient of n/i
n MOD i	Integer remainder of n/i
FRAC(a)	Fractional part of a
TRUNC(a)	Truncates fractional part of a
RAND(n)	Generates random number 0-n
$nnnn	Allows input of hex numbers
n & i	8-bit boolean AND
n ! i	8-bit boolean OR
n EXOR i	8-bit Exclusive-OR

Memory

DPEEK(m)	Double-PEEK of m,m+1
INKEY$	Returns last character typed
INSTR$	Returns relative location of start of string A$ within X$ (case sensitive)
INSTR(x$,a$,i$)	i specifies the starting point of the search
UINSTR(x$,a$)	Same as INSTR, but not case sensitive
UINSTR(x$,a$,i)	Specifies optional starting point
ERR	Value of last error number
ERL	Line at which last error occurred

Constants

%0,%1,%2,%3	May be used for numerical values 0-3

Auto-Load Your Files to Ramdisk

by Jean Row and Dale Bryant

(Reprinted from the SEP/OCT 86 issue of the SBACE Gazette)

Recently, it seems that one of the most popular topics in the magazines and most of the Atari club newsletters that Jean and I are privileged to read is the extended memory of the XE and upgraded XL computers. As we have both of the above we have been interested in articles about RAMdisks.

If you have an XE with DOS 2.5 and the file RAMDISK.COM is present on the disk at boot time, then a RAMdisk for drive 8 is created at that time. RAMDISK.COM not only formats the D8 RAMdisk but also copies DUP.SYS and writes a MEM.SAV file to the RAMdisk. However, wouldn't it be nice to be able to select your own RAMdisk drive number and not only create and copy the above files, but other files you would like to reside on the RAMdisk as well?

To copy a MEM.SAV file to your own created RAMdisk the MEM.SAV file will have to be present on drive 1. A MEM.SAV file can be created on any RAMdisk by POKEing 5439,ASC(#Dn") and then going to DUP.SYS and creating the MEM.SAV file. DOS will create the MEM.SAV file on the disk number residing in location 5439. We suggest having it present on drive 1 as the following program will then copy it to the RAMdisk of your choice.

However, the program not only creates and formats a RAMdisk of your choice, but will also copy all the programs residing in data line 5000 from drive 1 to your RAMdisk. Remember, however, that the RAMdisk formats to 499 sectors and not 707. If DUP.SYS is one of the programs copied to the RAMdisk, the program is set up so that DOS will look for DUP.SYS on the RAMdisk. This is, as we stated above, the same method used by DOS 2.5 if RAMDISK.COM is present on the boot disk.

If you do uploading of files to BBS systems, the following modification might prove useful. Take out the END statement at the end of line 6000 and insert line 7000 as follows:

```
7000 OPEN #1,4,0,"D:AUTORUN.SYS":A=USR(5576)
```

Assuming your modem program is set up as an AUTORUN.SYS file, or an AUTORUN.SYS file calls your modem program, the program will then execute your modem program. Of course, the files you want to upload should have been copied to the RAMdisk first using this program.

Experiment and have fun with your Atari.

The program listing follows:

```
0 REM S."D:ANYRAMD#
1 REM ----------XL/XE ONLY----------
9 REM
10 REM ****************************
11 REM *      Modified by         *
12 REM *      Jean Rowe &         *
13 REM *      Dale Bryant         *
20 REM *                          *
30 REM * Thanks to Bill Wilkinson *
31 REM *        and to            *
32 REM *    Rick Detlefson        *
33 REM *        of the            *
34 REM *      Austin ACE          *
35 REM ****************************
40 POKE 1802,3:REM If RAMDISK.COM has booted start over
with 2 drives
90 ? "}":POSITION 0,0:? "         RAMDISK MAKER XL/XE
"
100 REM ****************************
130 REM * A PROGRAM TO SET UP A RAM *
140 REM * DISK ON  Dn:, WHERE n IS  *
150 REM * ANY DRIVE NUMBER FROM 3   *
160 REM * TO 8.                     *
161 REM ****************************
172 CLOSE #4:OPEN #4,4,0,"K:":? :? "WHICH DRIVE # FOR
RAM DISK?";:GET #4,K:K=K-48:CLOSE #4:? K:IF K<3 THEN
11000
190 RAMDRIVE=K:REM CHANGE THIS AS DESIRED
210 POKE 1920,RAMDRIVE
220 POKE 2953,RAMDRIVE
250 REM
262 REM SUBROUTINE AT 500 SETS THE BYTE FOR LOCATION
1802
263 REM
265 GOSUB 500:POKE 1802,BYTE
270 DIM INIT$(4)
280 FOR I=1 TO 4:READ DATA
290 INIT$(I)=CHR$(DATA):NEXT I
300 DATA 104,76,224,7
310 INIT=USR(ADR(INIT$))
320 REM
330 DIM DRIVE$(6)
340 DRIVE$="D#:*.*"
350 DRIVE$(2,2)=CHR$(48+RAMDRIVE)
370 REM INITIALIZE OUR NEW RAM DRIVE
385 ? "Formatting RAMdisk ";DRIVE$(2,2)
390 XIO 254,#1,0,0,DRIVE$
400 REM
410 REM Verify it worked
420 REM
430 OPEN #1,6,0,DRIVE$
440 TRAP 470
450 GET #1,BYTE:? CHR$(BYTE);
460 GOTO 450
470 CLOSE #1:GOTO 1000
500 IF K=3 THEN BYTE=7:REM --00000111
510 IF K=4 THEN BYTE=11:REM --00001011
520 IF K=5 THEN BYTE=19:REM --00010011
530 IF K=6 THEN BYTE=35:REM --00100011
540 IF K=7 THEN BYTE=67:REM --01000011
550 IF K=8 THEN BYTE=131:REM -10000011
560 RETURN
1000 REM Autocopy files to RAMdisk
1010 DIM CIO$(27),I$(20),O$(20),N$(20),T$(2)
1020 BUF=FRE(0)-500:DIM BUF$(BUF)
1030 CIO$=" ":CIO$(27)="
":CIO$(2)=CIO$:BUFAD=ADR(BUF$):I$="D1:":O$="Dn:":REM
CHANGE O$ FOR DIFF RAMDISK
1032 O$(2,2)=CHR$(48+RAMDRIVE)
1035 GOSUB 11000
1040 T$=CHR$(125):T$(2)=CHR$(127):TRAP 2000:FOR A=1 TO
27:READ B:CIO$(A,A)=CHR$(B)
1045 NEXT A
1050 ? :? T$;"   RAMDISK COPY   ":? T$(2);"__":?
T$(2);"COPYING ..... BYTES"
1060 TRAP 6000:READ N$:I$(4)=N$
1070 CLOSE #2:OPEN #2,6,0,I$
1080 INPUT #2,N$:TRAP 1090:A=VAL(N$):GOTO 1060
1090 N$=N$(3)
1100 FOR A=1 TO 8:IF N$(A,A)<>" " THEN NEXT A
1110 I$(4)=N$(1,A):I$(LEN(I$))="."
1120 IF N$(9,11)="   " THEN 1140
1130 I$(LEN(I$)+1)=N$(9,11)
1140 OPEN #1,4,0,I$:? T$(2);"
";I$,:X=USR(ADR(CIO$),BUFAD,BUF,7):CLOSE
#1:BUF$((PEEK(856)+PEEK(857)*256)+1)=""
1150 ? LEN(BUF$):O$(4)=I$(4):OPEN #1,8,0,O$:?
#1;BUF$;:CLOSE #1
1160 GOTO 1080
2000 DATA
104,104,141,85,3,104,141,84,3,104,141,89,3,104,141,88,3,
104,104,141,82,3,162,16,76,86,228
4990 REM
4999 REM BELOW ARE FILES TO BE COPIED
5000 DATA DUP.SYS,MEM.SAV,ANYFILE
5010 REM DATA RAMDISK.*:Wildcard copies are O.K.
5020 REM DATA
5030 REM DATA
5999 REM Look for DUP.SYS on the RAMdrive created.  If
not copied then POKE 5439,ASC("1") for drive #1
6000 CLOSE #2:POKE 5439,ASC(O$(2,2)):? "FILES COPIED TO
RAMDISK ";O$(2,2)
7000 OPEN #1,4,0,"D:AUTORUN.SYS":A=USR(5576)
11000 IF PEEK(1802)<7 THEN ? "RAMDRIVE NOT PRESENT":POKE
5439,ASC("1"):END :REM Look for DUP.SYS on drive #1
11010 IF PEEK(1802)=7 THEN DRV=3
11020 IF PEEK(1802)=11 THEN DRV=4
11030 IF PEEK(1802)=19 THEN DRV=5
11040 IF PEEK(1802)=35 THEN DRV=6
11050 IF PEEK(1802)=67 THEN DRV=7
11060 IF PEEK(1802)=131 THEN DRV=8
11070 O$(2,2)=STR$(DRV)
11080 RETURN
```

WAACE XL/XE Disk Library

Order disks from the NOVATARI Disk Librarian. Price for WAACE members and *Current Notes*) subscribers is $3.00/disk plus $1.00 for postage and handling for every 3 disks. Otherwise, cost is a flat $5.00/disk (includes postage and handling). Send checks, payable to NOVATARI, to M. Evan Brooks, 4008 Patricia Street, Annandale, VA 22003.

GAME DISKS

1 TEXT ADVENTURES (Crash Dive!, Adventure in the 5th Dimension, Kidnapped, Operation Sabotage)
2 GAMBLING (Black Jack, Five Card Stud, Gambler's Dozen, Progressive Jackpot, Poker Squares)
3 SIMULATIONS (Broadway, Civil War, Dairy Farming, Dark Horse, Kingdom)
4 MAZES (Dragon Maze, Hidden Maze, Caves of Ice, Halls of the Leprechaun King, Maze Maniac, Master Maze)
5 PARLOR GAMES (Othello, Battleship, Monopoly, Mille Bornes, Yhatzee, Simon, Solitaire)
6 GRAPHICS (Engineer, Night Flyer, Oil Piazza Hotel, Retrofire, Titan)
7 ACTION! Games (Rats Revenge, Warp Attack, Birds, GEM, Angle Worms, Snails, Pong, Break Out, Bounce)
8 ARCADE LOOK-A-LIKES (Pac Attack, Livewire, Maniac, Burgers & more ...)
9 TEXT ADVENTURES 2 (Dr. Livingston, Titanic, Treasure Island, and Werewolf)
10 TEXT ADVENTURES 3 (High School Confidential, Mad House, Death World)
11 SURF'S UP! (Copyrighted Public Domain boot disk with some Beach Boys Music)

TELECOMMUNICATIONS DISKS

1 850 INTERFACE (AMODEM Plus v4.4, AMODEM Plus XL v2.5, AUTODIAL, TSCOPE, plus several documentation files)
2 835/1030 MODEM (AMODEM - 3 versions, TSCOPE, DISKLINK, handlers and documentation for all programs)
3 MPP MODEM (AMODEM Plus v1.6, AMODEM XL, MPP File converters, R-Handler, MSCOPE and documentation)
4A AMODEM 7.2 (Works with all popular modems, many bells and whistles, handlers and complete documentation included)
5 1030 EXPRESS and 850 EXPRESS telecommunications programs complete with docs.

EDUCATION DISK

1 MATHEMATICS (Drill, Function, Line, Math Kids, Math Fractions, Math Quiz, Math Time, Multiply)

MUSIC DISKS

1 TV/MOVIE THEMES (AMS I - Cheers, The Entertainer, Ewok Celebration, Knight Rider, Raiders of the Lost Ark)
2 ROCK (AMS I - Beat-It, Eye of the Tiger, Thriller, Still Rock'n Roll to Me & more...)
3 JAZZ (AMS II - In The Mood, Satin Doll, Take 5, Muskrat Rag, Soda Rag, City Lights, Atrain, Southern Nights, Ghostbusters, We Are The World)
4 BASIC MUSIC PROGRAMS (Star Spangled Banner, Flight of Bumble Bee, Entertainer, Darktow Strutter's Ball, Handel's Messiah, Mr. Sandman, Bibbidi Bobbidi Do)

LANGUAGE DISKS

1 FIG-FORTH version 1.1 (Includes FORTH language, assembler, debugger, editor and complete documentation files)
2 ACTION source code for Rats Revenge, Warp Attack, Angle Worms, GEM, Snails, Pong) - GAME DISK #7
3 ACTION! Graphic Demos (14 Graphic Demos, 13 of them in source code, FADE.COM is without source code)
4 ACTION! UTILITY PROGRAMS (8 files to aid the ACTION! programmer, most from Clinton Parker's BBS)
5 ACTION! Modules #1 (Approximately 30 general purpose modules you can include in your programs)
6 ACTION! Modules #2 (Similar to Modules #1, includes PICPASTE a cut & paste graphics program)
7 BASIC XL REF-BASE (A minature database manager built with BASIC XL.
8 ACTION! Disk #5 (Includes the source code for FADE, "Star Wars" text, FORK.ACT to allow simulated concurrent processing, CHAIN.ACT to chain ACTION! programs and PSPIC3.ACT the Print Shop utility.)
9 ACTION! Disk #6 TELECOM (The ACTION! source code for the KERMIT terminal program by John Palevich, TERM.ACT a bare bones terminal program by Clinton Parker and SAMTERM.ACT)
10 ACTION! Disk #7 (Games source code)
11 TURBO BASIC/COMPILER, Programs and Documentation.

UTILITY DISKS

1 MISC. UTILITIES (Cassette to Disk, Sector Examiner, Make AUTORUN.SYS and more...)
2 PRINTER (Banner Generator, Cross-Reference Lister, Disk Directory Printer, ATASCII Lister Program, Mailing List Program, Screen Dump and more...)
3 DOS 2.5 (DOS.SYS, DUP.SYS, RAMDISK.COM, COPY32.COM, DISKFIX.COM, SETUP.COM, DOS25.DOC)
4 RELATIONAL DATA BASE Management System (BASIC routines to build your own database application)
5 GRAPHICS TRILOGY by Tim Kilby (AMUCE, char ed.; BIP, graphic drawing prog; MMPC, Display List mods)
6 COPYMATE 130 (Sector copier for 130XE. Copies an entire disk in 1 pass, multiple copies without rereading the orig)
7 SECTOR COPIER (Sector copying program for the 400/800/800XL series)
8 TRANSLATOR DISK (Sometimes required to run programs written for the good old 400's and 800's)
9 256k RAM UPGRADE for 800XL (All files and docs to upgrade an 800XL to XE compatible 256k)
10 MEMBERSHIP DISK for members of NOVATARI

DEMO DISKS

1 BALLSONG 1 & 2, BOINK, Walking Robot & Spaceship CES demos and more...).
2 IPS MOVIEMAKER "Clips" (Antic PD "Mini-Film Festival" with a replacement for "Happy New Year")
3 HEAVY METAL ART as collected by JACE of Jacksonville, Florida

ST UPDATE
Latest News in the ST World

by Frank Sommers

SOMETIME WARE

Atari, Reality, & The Market - The last year has enheartened the dedicated, and the faithful we, who would go to the barricades to defend our machine, our Atari, ST or otherwise. The slow emergence of pride we wear first on our smiles and then have used to enforce our claim for the ST sees no near end. CES, as described elsewhere, in fact and flavor by Langworthy and Small, was another leap of confidence that we are here to stay and increasingly to enjoy. But what did we see, what was and is it? What will "it" be and when?

The press release for the Laser printer and the "Desktop Publishing for Under $3000", really, was a release for, if not vaporware, less than realware. Was it like those other things that Atari had announced some time ago, and then would henceforth eschew. While the snide, petty and near malicious remarks bouncing around murky corners after CES that the Laser Printer "had a folded over cable? and wasn't even connected" were a travesty of truth, i.e. the laser printer was there and spitting out press releases, 6 to the minutes, the other extreme, the buy-it-next-March version, is also suspect. When will the MEGA ST and the Laser ST be wed with software and printer drivers that will make it a realistic competitor to the desktop publishing leader of today - the MAC? Atari says in print, for the laser printer "this year...", and the news at CES was, "this March with full availability in April...".

But the print on the press release for the Atari PC, the IBM clone for $499, was barely dry before the paper began to crumble. The $499 IBM clone vaporized before the first one is to be shipped. As the Washington Post says in reporting on the latest White House peccadillos, "according to a source who prefers not to be identified...", so our source has reported that 100 Atari PC's were ordered by an established Southern Atari dealer, immediately after the CES announcement. He was told that the machines, "the Atari PC", would be delivered by the end of March or the beginning of April, and mailing arrangements were entered into. Subsequent query raised some question about the hard drive attachment and the DMA port. (It seems certain that the machine will couple with a hard drive, but the Atari official supplier was uncertain; David Small in his review of CES is also, George Langworthy in his was more certain. Doubt persists.) Then reality struck. Or something did, because suddenly Atari, in its new incarnation as the market realist, had decided that the Atari PC without a monitor at $499, was less of a thing of joy and beauty than first photos had predicted. The $699 PC with a monitor and the wizard board aboard, with it's VCI 100 chip, that asks, "What are your graphic needs", and then proceeds to meet them, be it EGA style, Hercules, or monochrome or what-have-you, was the contest winner. All one hundred machines on order to the dealer down South would be delivered as Atari PC's with monitor and chip at $699. The magical less-than-$500 PC wonder had been tele-transported to another planet.

We hesitate to belabour a point. For "market savvy" is largely responsible for keeping the devout of the Atari family alive and together. Mr. Jack Tramiel's acute instinct for "what they want is what they'll get, and for less" makes him the slayer of The Impossible Dragon, the successful slayer that he has grown to be. (Atari stock closed at 20 5/8 on Monday 19 January. That's a whopping 75% higher than its initial value last fall).

So, if awareness that a $50 difference in the profits on the two machines dictates that one dies aborning, then that awareness benefits the A-family. But the constant tendency, if not policy, of standing on the product cliff, smelling the wind of commerce and then turning announced products into mist and unannounced products into near-orders does not, despite the joy of "the miracles", reinforce consumer confidence or product loyalty. We may be wrong but if a major reason in introducing Atari's PC clone, in addition to profit pursuit, was for it to serve as a sharpened wedge into the small business market (large is out until you have a pervasive and responsive service chain), then generating confidence that you will be there, when you say you will, with what you say you will have is crucial if not critical. We know that Jack Tramiel has announced that he will "air products" and then drop or table them prior to production if the market sings a negative song to him. For the purchasing department in even a small business, that's reason enough to pay more for "reliability".

HARDWARE

High Hopes - The list of products that were, aren't, or might be, while small, are still critical to the dedicated, who for half a decade or more have been trying to convince their fellow would-be computer users that the Atari is after all unique.

The IBM emulator, the Blue Box, is not dead. The Atari PC has not closhed it. It will be produced, as restated at least three times in the 5 weeks before CES.... unless "market reality" dictates the clone does it better and more profitably. The CD-ROM that was to be as soon as it fell below $600, "will be", and interactive, and next fall, again if the price is right.

The blitter chip will be in the MEGA ST's. Word is out that a kit will be shipped to dealers, consisting of 6 ROMS, a schematic, and instructions on how to mount it on the CPU. Dealer cost will be $120; figure another $50-80 for your price. Atari is now taking advance orders for the 1200 baud modem to sell at $99. Advance orders are also being taken for the "new" 3.5 20 meg hard drive; new means it will have Winchester innards. And probably Supra's operating code, since Atari and Supra are reported to have signed a deal; this to solve Atari's persistent problems with its hard drive code.

What Happened to The ST I? Not long ago Neil Harris was heard to demand, "The ST I [ST Integrated]! What is that; it doesn't exist." (He had not read the September 1986 issue of *Current Notes*, "ST Update".) Just after the CES, however, an official of Atari Canada, in a response on CompuServe, stated that the Mega ST had, indeed, been known in Canada as the "ST I".

What's In The Box, Doc - What about the Mega ST? What goes inside the 22" by 22" square CPU of the new Mega ST (which shortly after its press release looked more like a 14" by 14" square, 2.5" high, with a detached keyboard). It's like Soviet overhead satellites measuring our "hardware" to estimate the size of the nuclear cigar sheathed inside, this guessing game. But best guesses now are that the hard drive for the Mega will be external and stackable. The user group of Ontario has obtained from Europe a MEGA ST4. It has 1-meg chips versus 256K DRAMS to bring it up to memory snuff. Early talk was that until the cost of the 1-meg chips dropped further, 256K's would be employed. Rumours that the 520 ST would disappear were inaccurate. It will merely dress up for the coming computer ball. Coming in out of the cold, it will slide into the Mercedes-class case of the 1040 and be called the 1040 ST FM, for floppy and modulator, if it has the latter.

School Ware for Less - The 520, housed as is, with color monitor and drive, bundled with ARRAIKIS educational software, that goes up to the high school level, will be offered to schools for $600-650. A nimble move. Now instead of ST parents coming home from work and wishing they had a computer at home to match their office mate, ST children will go off to school in expectation of finding the family machine near their desk. (*Current Notes* is doing a study on how much brighter ST children are than others.)

SOFTWARE

Software Explosion - Andy Niccola, who produces THE SOFTWARE LIST that you see on CompuServe, Genie, the WAACE bulletin board and other major boards around the country has moved his list into 1,000 range. He predicts that total software for the ST will approach 1,400 programs by the time of the June CES in Chicago. Educational software will surge as Apple programs are converted. The new MEGA machines will energize productivity products. The influx from overseas has started. There are 300 plus runtime packages in expanded modules that were in fact two big to run on the 520 ST. They require a hard drive and a couple of meg. They are 90% productivity, high-end business programs, and expensive. The energizing factor is the low cost of the new MEGA machines. Other IBM clones required equally expensive software. Now with the MEGA you have speed and low cost hardware. Michtron and Antic are both trying to be in the vanguard of importing the new products. Some twenty software houses in England alone will be shipping in time for the March-April appearance of the MEGA ST's. We'll be watching.

Equal Excitement - As exciting as CES, for the here and now people, is SoftLogik's *Publishing Partner* (reviewed fully in this issue). It is indeed a powerful bit of software that lets ST users really cogitate about using their machines for desktop publishing. It has bugs, a few, but SoftLogik has announced that as soon as the Atari laser printer is selling, so will they have a printer driver for it. Their performance to date causes us to trust that statement. However, *Fleet Street Editor*, by Mirror Soft of England is now available in this country, and is billed as stiff competition for SoftLogik.

HOF AWARD - It goes this month to Bill Moes, one of our top authors, who is also an educator extraordinaire in Defiance, Ohio. Mr. Moes has caged the hearts of CN editors by producing a moving screen demo of Current Notes "covering the world of Atari". As soon as we arrange licensing agreements with it's creator and the software utility, *Make-It-Move*, that helped generate the masterpiece, you will see it, probably everywhere we can seed it. It's fun. Hat's Off, Bill Moes.

BE A COPY CAT - There are currently only two do-it-all, or mostly so, copy programs extent for the ST. *ST Copy* has just released it's version 3.00. *ProCopy* has produced its version 1.32. These two software companies for a number of months have been neck and neck in trying to insure that they update as fast as the world of protected software finds "a new way" (One of Info World's columnists estimates the end of this year will see the demise of copy protection.). *ProCopy* has issued several more updates than *ST Copy*, yet as they cross the wire of 1986, only one or two programs (can/can't be) separate them. For the moment *ProCopy* is the winner, it copies 1st Byte Software, the talking educational programs, and Miles Computing's *Harrier Strike*. *ProCopy* is also rather quick to update your program if they have your owner's card on file. In one week, for example, they went from V-1.31 to V-1.32 and started so informing and supplying their customers. Other companies could copy this practice. We hope to tell you of a program that will copy to a hard drive by mid-1986.

The Best and The Brightest - A new one! *Draflx*, by Foresight Resources is purportedly the first full featured auto CAD for the ST. With auto scaling, routing, and sizing it is big stuff. *Word Perfect*, the leading IBM PC word processors is readying itself for

the ATARI. With its 150,000 word dictionary, thesaurus, multiple-column printing capability, GEM base, plus keyboard commands and macros and "much much more", it may be a competitor for *ST Writer*, but we guess that our next December poll will show old *ST Writer* still up there on top in the number of users column.

Firebird is readying two action smashers, *Tracker*, a bang-bang arcade game with AI routine and *Universal Military Simulator*, for those who wish to create their own battle scenarios and then fight it out, with pauses to check, "what if" variations. Timeworks expects to ship *Swift Tax* as and when you are reading this, to ease your coming April 15 IRS pains. Their *Data Manager ST* and *Word Writer ST* already have high scores. FLS is betting on its 3-D air combat game, along with its graphics startling adventure, *Dungeon Master*. What else are waiting for? *Chessmaster 2000* and *Coffee House Chess* are potential rivals to *Psion Chess*. And finally, where is that marvel of a word processor that will talk to us? It should be an exciting year. Remember, thus far, even you early buyers have only had ST's for a few bytes more than a year.

THE OLD MAN AND HIS COMPUTER
Live and Learn

by Robert W. Ford

I was fifty-five years old when I bought my first computer. That was in December 1985. Not having used one before, it was a most difficult decision for me. This article is about my experiences of the past year, some of my mistakes and other thoughts. Maybe it can help as you also live and learn with a new computer.

One of my greatest joys has been teaching my six year old granddaughter to use the "com-poot-er." I have DEGAS, a graphic arts program. One time I asked her if she would like to draw on the computer. "Yes Grandpaw," she said, "let me go get my crayolas."

For a couple of years I was under pressure from my boss to learn to use the computer at the office. My view was, "if you do it yourself, you can't supervise it." I did not think that I needed a personal computer at home just to balance my checkbook.

A cousin got me interested in doing family genealogical research. I began to accumulate a lot of information and to write a lot of letters. I purchased an electronic memory typewriter - my first mistake. The data base became to large for me to manage by hand. I needed help, and the time had come for me to get a computer.

So, being true to my managerial training, I began to look at some computers, read material, compared prices, studies specifications, and talked to others with PC's. I knew that I did not want an IBM or IBM compatible because I had no intentions of doing office work at home. Why ask for trouble when I had a boss who was a computer (nut) enthusiast? I was not going to make that mistake!

After considering all the facts, my choice came down to either the Atari 130XE or the 520ST with color monitor. I decided on the ST because of the capacity for the price and the new 16 bit technology.

I never seem to do anything for myself without going whole-hog! I got a Panasonic 1091 printer, Volksmodem, computer table, cables, interfaces and a surge protector. The software included VIP Professional (a Lotus 1-2-3 look-a-like), FinalWord (which I do not use) H&DBase, two spelling checkers, games and more, all of which I purchased. I now have an interface for the typewriter and a lot of supplies with over 150 disks. The wife says all this was the real mistake.

My next mistake was buying another single sided disk drive because I got so tired of swapping disks when making a backup copy. I now wish I had purchased a double sided drive with 1 MB. I did get a TOS ROM chip installed.

I began to teach myself the computer and to use the software. The manuals assume a level of knowledge that as a novice I did not have. Learning was slow and difficult and took a lot of time and effort. I learned Lotus 1-2-3. My mistake there was letting the boss know. Now sometimes I do office work at home, but mostly I do personal work.

I have written more personal letters this past year then all the rest of my life. I find that enjoy writing now. I have also learned that an unhappy consumer with a computer can become a nuisance to a business slow to resolve a consumer problem.

In my zeal to learn as much as possible, I subscribed to four publications. They were Current Notes, Personal Computing, Compute and Analog. As soon as Current Notes and Analog arrive, I read them from cover to cover. The other two magazines are not much help. The ST SIG of Novatari is most helpful even if I am not a programer.

I enjoy reviewing bulletin board files and information and have now learned to download what is of interest. I have not learned to upload, but that does not matter. As a novice, I really have nothing to contribute - as yet.

It took me several months to learn to manage my files. It seems I forgot the first rule of management - that is, planning. Without some forethought about record keeping, you waste a lot of time. I have now arranged my disks by both subject matter and software used. Each program now has a boot disk set up for its purpose and my particular needs for that program. Many of my files have dates of November 1985 because I would forget to set the date and time from the control panel. Now all boot disks have Biclock and Mousetrap in the Auto folder. I have to set the date before I can open a root-directory. I have purged all working disks of any unnecessary files to save space.

The 512K is to small for my genealogy data base. What mistake will I make next? Should I get the 1 Meg upgrade? Will I keep buying software? Get and internal clock? You live and learn. You should profit from your mistakes or some dealer will.

CURRENT NOTES ST LIBRARY

[Note: the programs on these disks are either public domain, or copyrighted but distributed freely to the public (e.g. AtariWriter and NEOCHROME), or shareware products where the authors would like an additional payment if you decide you like their products. Numbers not listed have been discontinued. Disks are $4/each. Include $1 for every 6 disks for postage. Order from CURRENT NOTES LIBRARY, 122 N. Johnson Rd., Sterling, VA 22170.]

UTILITY DISKS

#11: RAMDISKS & ONE MEG DOCS. Dozens of ram disks to choose from. Includes docs on 1-meg upgrade and hooking IBM drive to ST.

#18: UTILITY #1. anaclock, breakout, deskcalc, digclock, puzzle, ram, ramacc, bicalc2, calc, calca2, noverify, dblboot, copydisk, sectedit, squeeze, unsqueeze, format, mushro, stdio, title.bas, dump, labels, print, spool, printdir, degcol, effects, neocon, omaker, smaker, slide, windows, timeda, and calc.

#25: DEGAS UTILITY DISK. 24 fonts, 12 pr drivers, prgs to convert DEGAS->NEOCHROME, Koalapad->DEGAS.

#30: UTILITY #2. Assembler; cpp22; rcv2 and dcopy; Forth-83; printdir and timedate; Labels; Pallet; Picswitch; Squnsq; Volume.

#36: DESK ACCESSORIES. TI-59 calc, calendar, digi clocks, ramdisks, free ram, screen snapshot, background colors, sector ed, games, ST Tips.

#61: PRINTER DRIVERS. First Word, ST Writer, Degas

#63: UTILITY #3. WP desk acc, floppy disk indexer, file squeezer & unsqeezer, pic conv & comp utilities, ramdisk copy prg, more ..

#72: UTILITY #4. Format & copy 400K and 800K; library & delibrar; make512 & makelmeg; Fn Key Labels; muscnvrt; desk ACC(cli, fastram, fortune, prints, deskman); fileprint; proff; print hi-res on color system

#73: UTILITY #5. archiver; Copy files to ramdisk; ramdisk acc; disk lib prgs; disk speed checker; encrypt; title page printer; V2 of desk acc wp; convert Megamax H files to Personal Pascal I files; calc prg.

#81: UTILITY #6. V3 of word400; addr bk prg; change drive icons to diskettes; dir lister; quick I/O formatter; fast ramdisk; Font Ed; disk dir lister; hard disk backup; fix xmodem downloads; search disk dir; send setup cmds to Epson printers; test RAM.

#94: UTILITY #7. Make clipboard acc, analyze dBMAN command files, print out strips of picture files,...

#95: UTILITY #8. formatting util to handle inc capacity on SS/DS disks; use Easy Draw to draw elec schematics,...

#102: UTILITY #9. Early version of Apple II emulator, bulk erase, disk dir. printer, disassemble, ramdisks (eternal, yard), disk format acc., ram disk loader, disk labels printing program, monitor st (debugging tool).

GAMES

#21: GAME DISK #1. (Color) Megaroids, Mastermind, Othello, Backgammon, Ripcord, Target, Life, Journey.

#37: GAME DISK #2. (Color) BASIC Games(Bomber, Scratch, Switchbox), Celestial Caesers, Ripcord, Score4, Battleship, Blackjack, Mad Libs, Maze Maker, Mylife, Box the Dragon, Mastermind, hints for SUNDOG.

#39: ARCADE DEMOS. working demos of JOUST, TIME BANDITS (ver .96), and CRACKED.

#54: MONO GAME DISK #1. PuzzlePuzzle, move forward through labyrinth by completing puzzles.

#62: HACK. Dungeons and dragons like game where you (the adventurer) descend into the depths of the dungeion in search of the Amulet of Yendor

#80: MONO GAME DISK #2. MONOPOOL - a pool game with 6 balls; KRABAT - a chess game for beginning to intermediate players.

#100: GAME DISK #3. (color) Football, Break Out, Missile, 4 Adv. Games (Larn, Magnon, Twilight Zone, & Ogre).

#101: GAME DISK #4. (color) Atartrek, Celestial Caesars (new ver.), Krabit (chess), Twixt, ST Aggrevation.

PICTURE DISKS

#40: TINY COLOR #1. bee, comet, commie, dire, explorer, fractal, insect, map34, racecar, rockets, sailboat, sghost, snake, spiral, supman, train, troubl, trumpwet, weather, yamato

#41: TINY COLOR #2. 520st, aftburnr, amigabla, atari, corvette, courgar4, countach, ferrari, ghostbus, hitchhik, horses, kingtut, klingnon, loudness, miamice, oldmovie, porsche, portrait, rio, startrek, starwars, stoneage, threed, timewars, uranus, waace.

#42: TINY COLOR #3. at130xe, at400, at600xl, at800, at800xl, atari, bird, bull, demon, fish, goalie, hendrix, maxell, moon, moon2, mrx, parrot, parts, planets, saturn, shuttle, shuttle2, sun, winter.

#48: TINY MONO #1. apple, beagle, brooke, bunny, cad3d, chess1, chrsti, cowboy, hunger, jdxmas, morgan, nature, persian, polarbar, takeon, wetlime, xmascy.

#51: TINY COLOR #4. alarm, at810, back, bobevans, brooke, dec, diner, drwhobox, enterpri, escher, fader, flight, floppy, galileo, halley, k9, maxell, morgan, motherst, mttam, newscast, relheat, robot, robottv, romulan, scicover, shut747, st1042, top.

#52: TINY COLOR #5. 3dview, aafall, aaflag, aainsect, airport2, alien, boy, bugsbull, bullseye, chaos, chrome, faucet, fonts, girl, girl2, house, jokey, map43i, scicover, startrek, uranus.

#65: TINY COLOR #6. altmap, at1200xl, bat, bugs, coyote, dragon3, dungeon, gibson, girl3, marie2, mariel, miamivic, mickey2, mugs, scully, skate, sunset, toyotvan, vanhalen, warriors, wizard, xevious, tinystuf/tinyview.

#75: TINY COLOR #7. Pics from PRINT-TECHNIK demo disk: capital, car, carddame, cardking, ct-mag, eifel, fl-pferd, girl6, girl8, gohorse, jacksig, moonastr, pferde, schadma, tina, train PLUS tiny prgs.

#96: TINY COLOR #8. bigcats(6-9), davenoe, donald1, eagle, eagle1, elf1, fruit, gorilla, headroom, marilyn, mars, mona-ami, pluto, ronald, tinyview/tinystuf.

TERMINAL PROGRAMS

#4: TERM PRGS #1. sttalk(V.97); sterm; term and hiterm.

#43: TERM PRGS #2. 28 files, 3 compiled term prgs, 1 term emulator (not compiled) & latest patches to FLASH.

#84: ST TERM DEMO DISK. demo of ST-Term Ver 2.1. FLASH batch download DO File Generator; 2 more term prgs.

#88: TERM PRGS #3. UNITERM VT100 EMULATOR program, Version 1.5. (Includes QFORMAT.PRG, D.PRG, NEWWORD.ACC, REVIDEO.PRG, and DISKICON.PRG from #83.)

GRAPHICS

#7: GRAPHICS DEMO #1. 32 graphics demos.

#12: DOODLE WITH SOURCE CODE.

#14: NEOCHROME. Program, docs, pictures.

#32: SOUND/GRAPHICS #1. pianok. sound, zarath, digitize; swimming goldfish, Mickey Mouse head pntr, Star Raiders demo, popcorn.

#50: GRAPHICS DEMO #2. 7 SILENT SERVICE screens, demos from DUNGEON MASTER, bouncing FUJI symbol.

#64: DOLL ANIMATION DEMO. Spinning dolls demo. Requires 1Mb, color.

#66: GLOBE DEMO DISK. Spinning world globe plus misc graphic demo prgs. Requires 1 Mb, Color.

#67: BALL/BIRD DEMO DISK. Ball bouncing on mirror with multiple light sources & flying bird demo.

#77: CAD 3D ANIMATION DEMO. Fractal Mountain.

#85: SOUND/GRAPHICS #2. stspeech.tos, mandlbox, disks, julia3, kleido, diskicon, OO TOPOS sample screens, music player & music files.

#90: SHINNY BUBBLES. Color demo shown at COMDEX '86.

MUSIC

#34: MUSIC ON YOUR ST. ST MUSIC BOX from XLent, Deluxe Piano Player.

#60: MUSIC STUDIO SONGS. Some 50 songs for MUSIC STUDIO
#76D: PRINT-TECHNIK SOUND DIGITIZER DEMO **. Requires 1Mb, DS drive, color.
#78D: DIGI SOUND DEMO #1. OXYGEN - Disco Version (By Hypnosis) 1Mb, DS
#79D: DIGI SOUND DEMO #2. FOREIGN AFFAIR - (by Mike Oldfield), 1Mb, DS
#99D: DIGI SOUND DEMO #3. MATT'S MOOD - (by Matt Bianco), 1Mb, DS
(See also #32 and #85 under GRAPHICS)

LANGUAGE DISKS
#8: SAMPLE "C" PRGS #1. 17 C programs with source code.
#9: SAMPLE LOGO PRGS. Over 30 LOGO programs.
#22: SAMPLE BASIC PRGS. 17 BASIC prgs, command summary
#31: PASCAL & MODULA-2. PASCAL: OSS files (4/18/86), 8 demo prgs. MODULA2: GEM demo; BIOS and XBIOS functions; 11 files not yet tested on ST; VT52 emulator escapes.
#33: SAMPLE "C" PRGS #2. cc, digit, fixed, debug, qio, pi3con, printdir, ramfree, sound, ttool, vdisamp, windtst, and more.
#49: SAMPLE PASCAL PRGS #1. 46 files including 34 different PASCAL routines and docs from OSS BBS.
#53: ATARI ST FORTH-83 MODEL. Written by Laxen & Perry, includes FORTH language, editor, assembler, decompiler and Atari xbios functions.
#71: FORTHMACS WORKING DISK Ver. 1.1. (c) 1986 by Bradley Forthware, Forthmacs is one of the very best Forth systems available today.
#82: SAMPLE "C" PRGS #3. 3d, artwork, arxx, cc, clock, fractal, !i, palette, print, qix, startup, ttool2, qio
#83: SAMPLE MODULA-2 PRGS #1. Shell for ARC.TTP w/source; files for line A calls; patches to V2 of Modula 2; cmd line interface; list dir; format disk; display free RAM; Huffman compression algorithmn.
#92: SAMPLE MODULA-2 PRGS #2. Includes ST Speech Modules and other enhancements to Modula-2.
#93: SAMPLE PASCAL PRGS #2. Includes latest from OSS BBS plus source for CHECKERS, a spelling checker, more...
#97: LITTLE SMALLTALK. Smalltalk language, editor, manual, and example programs. (Files are compressed, but arc.ttp and arc.doc included on disk)
#98: XLISP Version 1.7. Includes XLISP language, manual, XLISPE editor, C source files, XLISP-AI conference from CompuServe, plus arc.doc & arc.ttp to uncompress.

APPLICATIONS
#15: ST WRITER, Ver 1.50/1.70. Latest (Dec '86) ver ST WRITER & all (rev) doc files.
#29: MICROEMACS. Version 3.7i of MicroEMACS editor. Includes editor, reference manual, and tutorial.
#59: VIP TEMPLATES. 20 VIP templates, some simple, some quite sophistcated: acpay, acrec, blackbk, ckbkbal, dispurse, fedtax85, ledger, lotusinv, magee, menu, mistox, payroll, spi, spi2, tryme, z, zlife, zrelease, starter
#68: CAD 3D PICTURES. A dozen or so picture files for use with Tom Hudson's CAD 3D Program
#69/#70: GRAPHIC ARTIST DEMO. Ver. 1.52. You need two disks for this demo. All features except writing to disk and printing.
#74: ST SAMPLER #1. demos of (1) Synsoft's General Ledger; (2) SOLAPAK (screen saver, print spooler, and ramdisk autoloader); (3) TechMate Chess prg; debug prg for dBMAN cmnd files (<75 lines); bingo card tracking prg.
#89: ST WRITER Rev. 1.70 -- SPANISH VERSION. (c) 1985 por Atari Corp., Todos derechos reservados. Note: printer driver and doc folder from #15 are included (in English).
#91: BOFFIN DEMO DISK. Complete working demo of BOFFIN word processing program.
#103: SKYMAP. 1,560 of the brightest stars. Display map of stars, find a particular star, or identify a particular star.

CPM EMULATOR DISKS
#86: CP/M-80 EMULATOR TOS DISK. A complete CP/M-80 Version 2.2 compatible system environment. Disk includes TOS, PRG and DOC files and ARC file containing CPM programs on #87
#87: CP/M-80 DISK #1. Disk in CP/M-80 format: two dozen CPM utilities released on Atari's CP/M disk.
#C1: CP/M-80 TELECOM DISK #1. mexst & docs, mex11upd, areacode, kermit.txt, rs232.doc, numbers.doc
#C2: CP/M-80 UTILITY #1. 45 files. banner, d, dd, ds, dr, dr13, diszilog, du-87, duu, eraq, fbadgo, find2, mage, make, osd, password, print, recver21, renext...
#C3: CP/M-80 GAMES #1. adventure.com, aliens.com, MSBASIC games(blkjak, horse, monster, rocket, wump, startrek, trade)

ST-MAGIC DISKS
These disks contain Macintosh programs for use with the Magic Sac on the ST. Disks are already in Magic format and can be used directly. All disks have been extensively revised and updated. All programs work. (If you ordered an early version, you can send it in and we will update it.)

#M0: MAGIC SAC 3.5. This disk contains the most recent version of the MAGIC program. This is a beta of the coming ver. 4.0. It corrects many of the problems discovered in ver 2 & 3.
#M1: MAGIC FORMAT BOOT DISK. Altered Finder, Edit, REdit, MacLuff, System Folder (Finder 4.1, System, Image Writer, Clipboard File, Scrapbook File, Notepad File.)
#M2: TELECOM DISK #1. Free Term 1.8, Termworks, Kermit, BinHex 5.0.
#M3: UTILITY DISK #1. Switcher, PackIt, Slicer, MacDump, RMover, Reverse Screen, DES, Font Doubler, Set File, Scan, Ver. Reader 1.1, Write Stream.
#M4: MAGIC GAME DISK #1. Missile Command, Solitaire, MacLuff, Space Bubbles, Back Gammon, Smile, Bash Big Blue, Munch, Meltdown, Maze 3D, Snow, Curves, Finder, System.
#M5: DISK LIBRARIAN. Disk Librarian Ver 1.81, Disk Librarian Doc, Librarian Short Doc.
#M6: MAGIC GAME DISK #2. Ashes, Wall Game, Wheel, Black Box, Snake, Destroyer, Hex Puzzle, Office Attack, Symmetry Demo.
#M7: MAGIC GAME DISK #3. MacYahtzee, Wiz Fire, MacCommand, MacBUGS, GO, Break the Bricks.
#M8: MAGIC DESK ACCESSORIES #1. DA Tester, F/DA Move, MockPrint, MockTerminal, MockWrite, MiniWriter, Moire, ArtThief, Ascii, File Hacker, Transfer, 20 more....
#M9: MAGIC UTILITY #2. File Hacker, ResEd, RamStart 1.3, Font Doubler, Change App.Font, Desk Acc. Mover, MacTools 5.4, Convert Desk Acc.
#M10: MAGIC GRAPHICS #1. Living Art, Pattern, Painter's Helper, Moire 3.0, Mightmare, Rotations, Ball Demo, Hot Sex, Meltdown, View Paint 1.1, Curves, Fourth Dimension, Pics:(bugs, amy, pisces, brooke, garf).
#M11: MAGIC PRINT UTILITIES. Chooser, Ink, F/DA Move, Font Mover, Fast Eddie, more ...

ANALOG DISKS
No. 41 (April, 1986) through No. 48 (November, 1986)

CURRENT NOTES DISKS
Text of CN articles, 1986. #CN8601 (Feb 1986), #CN8602 (Mar 1986) ... #CN8610 (Dec 1986).

PINFEED LABELS for your ST Disks like those used on CN Library disks: 500($10); 1,000($15), 2,000($25), 3,000($30). Price includes shipping.

[NOTE: New disks this month are underlined. A "D" next to disk number indicates Double-Sided drive required.]

ATARI SCUTTLEBITS
Hacking the ST Mac

by Bob Kelly

I intend to start off the New Year by discussing Data Pacific's Macintosh Cartridge (*Magic Sac*). It is NOT my intention to provide a detailed technical review of the product but to provide insights on "true" hardware set-up cost, evaluate whether the *Magic Sac* can be considered a full Mac clone, supply a list of software considered essential, and to provide other recommendations/hints so others may avoid my learning curve frustrations.

COST OF SYSTEM SET-UP

The Mac cartridge (hereafter called the *Magic Sac*) fits into the cartridge slot of the ST. The discounted price for the *Magic Sac* I is about $90 while the *Magic Sac Plus* runs about $120, the difference being inclusion of a clock module on the *Plus*. In addition to the cost of the cartridge, two Apple Mac ROMs must be purchased and inserted into the cartridge. The cheapest price I have seen for the two ROMs is $30 from B & C Computers in Santa Clara, California. (More often than not the ROMs are advertised at $50 per pair.)

In addition to the DIRECT cost of the Magic/Mac cartridge, the INDIRECT cost associated with modifying your ST's hardware configuration must be considered.

First, for best viewing, a monochrome monitor is required (remember, the Mac has no color). Data Pacific, using clever programming techniques, now allows a color monitor to be used (beta test version on *Magic Sac* boot disk 3.5). However, the picture quality, in diplomatic terms, is very unpleasant for those of us with normal eyesight.

Next, your Atari ST should be equipped with 1 megabyte of RAM for best operation. If you have standard TOS in ROM on a 520ST (512K), the largest Mac emulation possible is 256K. This memory size restricts the flow of operations by causing more disk swapping and some unexplained happenings (e.g. system crashes). In addition, the COLOR MONITOR ONLY OPERATES with a 1-Meg machine at present.

If you do not want to do a considerable amount of disk swapping, it is best to have a two drive system. A one drive system promotes tennis elbow, similar to CP/M 2.2 operations.

Since I own a 1040ST with two drives, I did NOT have to purchase indirect items other than a monochrome monitor ($125). The total hardware cost of my set-up was approximately $250 ($125 + $90 + $30 + shipping).

A FULL MAC CLONE -- NOW OR EVER?

What did I get for this $250? First and foremost, I learned how a Macintosh operates. I would buy the *Magic Sac* again for this alone. However, for those who have a Mac at work, the *Magic Sac* is NOT NOW a usable clone. It is a system best suited to users who can be classified as quasi-hackers or those who want to learn in depth about the Mac. On what do I base this opinion? The *Magic Sac*:

- Does not support the Epson/Star Micronics/ Panasonic array of dot matrix printers (this deficiency is a result of Apple's corporate policy, but it is now a technical problem for the *Magic Sac*). Almost everything in Mac public domain looks for the Apple Imagewriter. Data Pacific (DP) plans to have an Epson driver in version 4.0. When will 4.0 be available - my guess, March, 1987.

  ASCII files can be printed with the aid of some Mac public domain printer programs -- more on this later. Let me hasten to add, very few files found on Mac BBSs are in ASCII format -- MacWrite 4.5 files in binary form are the rule.

- Does not support *MacWrite 4.5*. It will work with *MacWrite 2.2* which saves files in ASCII form. Data Pacific is working on this shortcoming and intends for the *Magic Sac* to be compatible with *MacWrite* 4.5.

- Does not run copy-protected software. As such, Microsoft *Word, Pagemaker, Excel*, and *Jazz* cannot be run. If you don't know why these programs have been essential to the success of the Mac -- stop reading here. Data Pacific plans to produce a drive capable of running copy-protected programs which may be available in the May/June period.

- Does not support sound. In my opinion, this is not a major liability for the foreseeable future.

SOFTWARE TO GET STARTED

Without doubt this area was and remains the cause of more headaches than any other. A substantial amount of the problems were the result of having to use Magic boot disks 3.0 or 2.0. Thank ????? that is over!

With the introduction of version 3.5 of the Magic boot disk, several of the more persistent problems have been solved -- such as frequent "crashes" when changing programs and bugs in the way *Switcher* runs. Also, *Notepad* no longer sends the system into orbit.

Most importantly, version 3.5 permits Macintosh desk accessories to be installed and removed (unlike Atari, it is not as simple as changing the file extender to .ACC).

Operating with anything less than version 3.5 is just plain stupid. For those who still have versions 2.0 or 3.0, you can download 3.5 from CompuServe. Proceed to the Atari Developers Forum (type: "Go ATARIDEV"). It is an ARC file and 39K in length -- remember the *Magic Sac* boot disk is a normal Atari formatted disk.

Along with 3.5, you should have the following public domain/shareware disks:

A. Finder: ver., 4.1 (system disk)
B. Font/DA Mover: ver., 3.2 (changes fonts and desk accessories)
C. Freeterm: ver., 1.8 (telecommunications)
D. Packit III: ver., 1.2 (compresses/decompresses files)
E. Ink: ver., 2.0 (prints ASCII files)
F. Chooser: ver., 2.0 (selects print driver)
G. MacWrite: ver., 2.2 (Commercial Word Processor.)

The Finder disk is the start-up or boot disk for the Mac system. On the disk is a system folder containing system files and *Finder 4.1*. *Finder* performs such tasks as designating which disk is in control, provides the entrance and exit to programs (i.e., finding files), and performs general housekeeping and control procedures (copying files).

Font/DA Mover 3.2 permits the installation/removal of both different fonts and desk accessories. *Font/DA Mover* version 3.2 is far and away the best version with the *Magic Sac*. Earlier versions 2.5 and 3.0A.1 do install and remove desk accessories but at a much slower rate. Further, versions 2.5 and 3.0A.1 do not work when installing fonts. (Remember, *Font/DA Mover* works only with Magic boot disk 3.5 or better).

Freeterm 1.8 is more than adequate for most telecommunication needs.

PackIt III is desirable since some of the programs on the Mac BBSs are compressed. *PackIt III* will decompress these files.

Now comes the question of printing. Again, Magic boot disk 4.0 is soon to be released and designed to solve many of these print driver problems. If you want to print out a document now, some precise procedures have to be followed. First, click on PARALLEL PORT when booting. Next, for binary files compatible with *MacWrite 2.2*, select and load the document you want into *MacWrite* and save it as an ASCII file (use: Save as ..... text only). Quit *MacWrite* and boot up *Ink*. Pull down the printer menu and click on Printer Port and Okidata 92 (other printers can be configured -- read help files). Next, go to File Menu and click on Print Selected Files, now:

-Click on OK box (don't enter anything)
-Click on File to Print
-Click on Select
-Click on Done
  New box appears asking if you are "Ready to start printing"
-Click on OK.
  Your file should now be printed.

Another alternative print method requires a commercial program called *Epstart* ($50 retail). This program supplies several different Epson printer drivers which are placed in the system folder. With the aid of a public domain desk accessory called "Chooser or Choose Printer", the Epson driver is installed as the default driver. Repeated attempts have failed to get it to work. Again, it appears not to be solely a fault of the *Magic Sac* system. A local Apple dealer has stated that it works so infrequently with the Apple Macintosh they no longer carry the product.

RECOMMENDATIONS/OPERATIONAL HINTS

When using the *Magic Sac*, I suggest:

1. Never use the Motivator (RAMDISK) unless you have become thoroughly familiar with its operation. Simply put, it keeps dumping the same contents of RAM to subsequent disks. Suppose you decide to eject the initial disk and the need arises to eject the second disk, it will write back the contents of the first disk when ejecting so ..... 'bye-'bye second disk.

2. Now that you will never use Motivator, do not write-protect the disks by closing the notch on the disks. By physically write-protecting, the *Magic Sac* automatically locks all programs. They cannot be unlocked without stopping work, ejecting the disk and opening the write-protect tab.

3. Rumor has it that the old ProWriter is identical to the ImageWriter I. Thus, according to hearsay, the printer driver problem would go away if you own one.

Recommendations for David Small/Data Pacific:

1. Please, in preparing printer drivers for the *Magic Sac*, make it possible to meet the requirements of the Star Micronics and Panasonic printers. Why do I say this? An extensive survey involving hundreds of Current Notes readers indicated that about 45% of all Atari owners have Star or Panasonic printers.

2. In booting the *Magic Sac* system, make the default printer port parallel, not serial.

3. Unless the color monitor system can be substantially improved, it will only dissuade serious applications.

4. A very few programs do not work with Magic 3.5 that worked with 3.0, notably Desk Acc. Mover, ver., 1.3/4

5. In the design of the forthcoming Gem based formatter/copier, the most needed addition is the ability to repeatedly format or copy disks without having to go through all the prompts or rebooting the program.

6. It would be nice if some of the more feature-laden telecommunications programs could be used with the *Magic Sac*, in particular, I refer to auto dialing capabilities, kermit protocol, etc.

7. In my opinion, the ultimate success or failure of this system will depend on the introduction of a low cost Macintosh disk drive capable of running copy-protected software (this assumes the printer driver issue is satisfactorily resolved and soon).

Given the positive response to user input to-date and timely product updates, the *Magic Sac* will probably approach full clone status by summer. Transporting work between home and office should then be a reality. It is not too early to start learning. In that vein, the best book I have used regarding Mac operations/software is The Macintosh Advisor by Harriman and Calica, (Hayden Co., 1986).

I would like to express my appreciation to Mr. Jeff Greenblatt for his expertise. All the public domain/ shareware that he and I gathered for this article has been given to the *Current Notes* Mac library.

CLASSIFIED ADS

FOR SALE: GEMINI 10X dot matrix impact printer, 120 cps (in std mode), like new condition, w/all manuals & new ribbon. $150/neg. Call Neal at (301) 972-1935.

HELP! Looking for ST user group or patient ST user in the Severna Park or Annapolis area. Needed to coach computer idiot through the vagaries of ST Writer, database applications and general word processing. Many thanks. Tom Mallonee (301) 647-5068.

SALE: 1027 Printer for $45.00; 2 Atari joysticks for $2.00 each; 410 program recorder with 4 games and touch typing cassettes for $30.00. All excellent condition. Matt Borg (703) 780-5015.

FOR SALE: ATARI 520ST, color monitor, single disk. TOS ROMS, 30 disks, various programs. Also PANASONIC KX-P1080 printer, nlq, various type styles, tractor/friction feed, cable and paper included. Will include large O'Sullivan computer table. $950 negotiable. Day# 523-1673, eve# 301-890-4340, Keith Van Hulle.

DESKTOP PUBLISHING FROM SOFT LOGIK
A First for the Atari ST

Review by Bill Price

Desktop publishing is the hottest item in the PC market. Two national magazines are already devoted to this subject, and recognizing the market potential, a number of companies have been created during the past year to exploit this new wave. Most are acting as system integrators to provide the right hardware and software for a customer's requirements. Atari has joined this rapidly emerging new technology with the introduction of *Publishing Partner* by SoftLogik Corporation in St. Louis. Before reviewing this recent software release for the ST, let's look at the roots of desktop publishing, the contenders in the marketplace, Atari's role, and what *Publishing Partner* offers you as a home or office user.

A major product of many business and office activities is information in printed form. Despite predictions of the paperless office, the future still holds the prospect of increased output of paper with the personal computer as the new driving force. The major technological development supporting this trend is the laser printer. Although laser printers have been around for well over a decade, the engines were large and so were the price tags -- $500,000 and up.

AN ACCIDENT OF GENIUS

Then along came Japanese ingenuity with a product that no one quite knew what to do with -- Cannon's small desktop copier. Although a novel product, it has not taken the market place by storm. But the Japanese genius didn't stop there. Like the ten-finger orchestra created with synthesizers, soon came a version of the copier with a laser beam gun that ushered in desktop typesetting in the $2,000 price range. At this price, you have the same 300 lines per inch quality produced by the larger $150,000 printers. It is almost as if this was an invention waiting to happen. Combined with desktop publishing software, this is now the new wave and the logical follow-up to word processing.

High-quality electronic typesetters are so expensive that corporations and government agencies are hard pressed to make the equipment investment. The same has been true of typesetting software which has traditionally required large investments of money and time. Because of this most typeset copy has been produced by businesses specializing in this service. Until Xerox introduced the STAR 8010 Information System, most computerized typesetting was performed on mainframes. Where word processing took some years to migrate from the central corporate typing pool to the far corners of the organization, desktop publishing is now bypassing the central corporate resource pool and is moving rapidly into the local office place.

Where word processing gave writers and editors the tools to word craft and refine substance and content, desktop publishing is now giving users the ability to improve the visual quality of how this information is presented. High-quality typesetting has often been called a lubricant to reading -- removing the friction encountered with bland monospaced typewritten copy. The word processing, desktop publishing, and laser printer combination now gives users the ability to produce this quality of copy with your Atari ST.

MAC TAKES THE LEAD

Currently, Macintosh holds the lead in desktop publishing. If anything, it is this singular capability that currently sets the Macintosh apart form other PC's. The Macintosh is a natural for this type of application.

* First, GEM-driven system architecture and the mouse allowed developers to design people literate software. The GEM/icon/mouse technique was adapted from the Xerox STAR System. Command-drive processors are not easy to use in preparing text for typesetting.

* Second is the high resolution, though small, monitor. This type of display presents "what you see is what you get" (WYSIWYG) in a near exact representation of final typeset copy. Proportionally spaced fonts and sizes are displayed as they will appear on printed output. (A monospaced single font screen display is extremely difficult to work with and requires a lot of guessing and rework to produce a proportionally spaced typeset page. The monospaced monitor display has no visual resemblance to the final product.)

* Third, and most important, is Apple's initiative in developing the LaserWriter and the uncanny teaming with Adobe Systems.

The LaserWriter uses a Cannon engine; that's where any similarity with other laser printers ends. The LaserWriter and the LaserWriter Plus are in a class by themselves -- they are also heavy-duty computers. The LaserWriter Plus, with 1.5 megabytes of RAM, was for some time the only printer that could produce a full-page size graphic. Others with no more than 250K were limited to graphics no larger than 5 inches. With a 300 x 300 per inch resolution, 8.4 million pixel bits or just under 1.1 million bytes must be stored to produce a full 8.5 x 11-page graphic. The LaserWriter Plus can easily handle this. Typeset pages require less RAM, so the spare capacity can be used to load additional font drivers into the laser printer. In addition to the RAM, the LaserWriter Plus has one

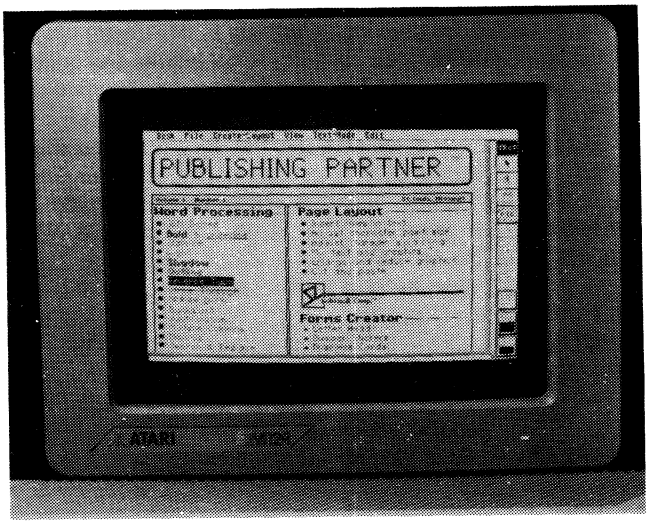
megabyte of ROM. Resident in ROM is Adobe's PostScript system and 11 fonts provided by Adobe. With over 400 fonts available for the LaserWriter, Adobe has licensed from the owners those typefaces that are the daily workhorses for most typesetting. (They include Times Roman, Helvetica, Garamond, Goudy, Baskerville, and Century Schoolbook.)

Not only do the Adobe fonts represent those that are used for the majority of publishing needs, their PostScript page description language has been adopted by manufacturers of the more expensive and higher quality computer-driven phototypesetters such as the Mergenthaler line. With PostScript compatibility, the user can produce draft copy on the LaserWriter, refine the presentation, and then produce high-quality camera-ready copy through a number of typesetting services.

ATARI ON MAC TURF - AGAIN!

Now you can have these same capabilities with an Atari ST. After all, the ST runs 20 percent faster than the MAC and the ST monochrome screen is 30 percent larger. The ST's GEM shell and mouse operation is ideal for desktop publishing. SoftLogik in St. Louis has taken advantage of these features to produce the first desktop publishing software for the Atari -- *Publishing Partner*. You don't have to contend with frequent system crashes which have caused chagrin and lost time in this emulation.

Publishing Partner was written for and around the ST to give the same types of facilities found in *PageMaker* and *ReadySetGo* -- two of the leading desktop publishing systems for the Mac. Written "around" the ST means just that.



PUBLISHING PARTNER ARCHITECTURE

SoftLogik had to write around substantial portions of GDOS to provide sophisticated page display and printing facilities. As a consequence, GDOS is not fully supported in this release, but it will be in subsequent versions. *Publishing Partner* is written in 68000 Assembly Language and is fully loaded into RAM. If the same features were written in C or another high-level language it would not fit into a one megabyte ST and leave sufficient RAM for processing text. And this is where *Publishing Partner* excels over *PageMaker*. First, it is slightly richer in some features. And second, it runs much faster from RAM. *PageMaker* cannot be fully loaded into RAM. As a consequence, when a menu is selected, the disk must be accessed to load new program modules, and this slows operation. SoftLogik has made some effective design decisions in implementing their ST desktop publisher. Nearly 600,000 bytes are available on a one megabyte ST for working text. A 520 ST will be cramped.

SYSTEM FEATURES

Publishing Partner is an integrated system that provides word processing, page layout, and forms design all on the same screen. You don't have to exit one program and load another to access these different facilities. *Publishing Partner* is a fully GEM based system furnished on separate color and monochrome disks. Functions are selected from a series of drop down menus and options. These include creation of page layouts; several options for sizing and viewing pages; selection of fonts, styles, and point sizes; page and line formatting; and editing tools.

The FILE, SIZE, and FORMAT options can also be executed from the keyboard with ESC and CTL key combinations. You can create a document with *Publishing Partner*'s word processing facilities or you can import an ASCII text file produced by another system on the ST, XL/XE, IBM and compatibles, or a Macintosh. Graphics can be imported from D.E.G.A.S. NEOchrome and Tiny formats. Using public domain converters, graphics created with *MacPaint*, *Fullpaint*, and *MacDraw* can be changed to D.E.G.A.S. format and then imported by *Publishing Partner*. Any portion of a picture can be selected, and the picture can be resized to fit your page layout.

SoftLogik is currently developing utilities that will allow you to use one or more of the PIC image conversion devices currently available for the Macintosh. One, made by Cannon, resembles a low-profile dot matrix printer. A photograph or freehand art can be scanned and converted to a PIC image format that is saved as a graphic file similar to that from D.E.G.A.S. This ability to "lift" and digitize graphics from paper-based art-work will open new avenues for the ST as a graphic arts, publishing, and office tool. Additionally, SoftLogik is developing more print drivers and a variety of type fonts for use with the system. There are other

enhancements that could not be incorporated in the first release within the time limits SoftLogik had set. These are compelling reasons to not pirate this excellent system -- the first of its kind for the ST. This type of system will help the ST get the more serious attention that it deserves. If *Publishing Partner* is to blossom into an even more powerful system, it must be based on your support.

PAGE LAYOUT

Although you can create a text file with *Publishing Partner*'s word processing facilities, the easiest way to get started and see results is to import one of your existing ASCII text files. The work processing facilities of *Publishing Partner* are good. However, they differ from programs that are designed solely for this facility, and you will probably be more comfortable with the system that you are most familiar with. Before you import one of your text files, a page format to receive this text must be designed and created. *Publishing Partner* offers both manual and menu driven methods. Manual creation is as simple as drawing a box by dragging the dimensions with a pointer similar to the procedure with *D.E.G.A.S.* or *NEOchrome*. For automatic page/column creation, a menu window lets you define the four page margins, select the number of columns, and space between columns. Multiple columns are supported.

To assist you in page and forms layouts, a grid can be snapped over the entire working screen and rulers displayed across the top and down the left side. Ruler scales can be set for pica, inches, or centimeters.

Tab settings are shown across the top scale, and as the pointer is moved across the page, both x and y locations are shown on the rulers.

Once page layout and dimensions have been defined, the FILE menu lists options for loading an existing *Publishing Partner* document or importing an ASCII text file from an external source. The imported text will flow into the layout until all columns and pages have been filled. (As with any word processing program, hard carriage returns will destroy the ability to reformat lines into different widths.) If the column dimensions need to be changed they can be resized much like changing the size of a GEM window. The text will automatically reflow into the new format. In fact, text is never frozen; it flows like water whenever format and style specifications are changed.

FONTS AND SIZING

Next, the fonts, typefaces, and sizes must be selected. Two methods are available. If you are typing text, the font and size can be selected before keyboarding. As text is entered, it is displayed on the monitor in the selected size and style. However, the second method may be easier. Existing segments of text can be highlighted and thus selected for change. Fonts and sizes can be chosen from the drop down STYLE menu and the highlighted text display will instantly change to the new setting in a "snap to" manner. The text will reflow into columns with lines automatically adjusted to accommodate the new type size.

Type can be set in sizes ranging from 6 points (one twelfth of an inch) to as large as 216 points (3 inches). A menu window displays the most commonly used sizes. However, any point size, within the above ranges, can be manually entered. Additionally, menu options let you stylize the selected font with light, tall, bold, italic, backslant, outline, shadow, inverse, and mirror. For those in the legal profession, there is even a strike through feature that preserves the original text.

MORE FONTS NEEDED

Currently, the major shortcoming of *Publishing Partner* is its lack of fonts. A system font, Times, and Helvetica are included on the disk. For this type of WYSIWYG system, two sets of each font are needed -- one for display on the monitor and another for imaging either on a dot matrix or laser printer. The monitor font must reflect the same proportions as the typeset or printed page version. Another shortcoming is the graphic quality of the fonts displayed on the ST's monochrome monitor. For those using the Magic Sac cartridge and *MacWrite*, the Macintosh fonts displayed on the screen are very good in graphic quality and variety. The ST hardware capabilities for this quality are there, but a company like SoftLogik must make the investment in software to take advantage of the ST's features. Presumably they are aware of this and the next few months should see issuance of additional font disks.

FORMATTING LINES

Publishing Partner is versatile in its capabilities for changing dimensions, formats, type styles and sizes. Each time you make a change, the text reflows according to the new specifications. Single lines can be selected for paragraph or section headers and they can be easily turned into a larger size than the narrative as well as turned to bold face. From the FORMAT menu, text can be converted to all upper or lower case. It can be moved from the baseline to super or subscript. Other options allow you to change margins within a page or a column and to set lines flush left, right, or centered. Lines can be word justified or character justified. Additional justifying space is placed between words or between both characters and words. Two other features on the FORMAT menu allow for manual kerning and manual hyphenation -- functions normally performed by software algorithms. Such a hyphenation routine would be based on vowel and consonant combinations to determine a logical word break. Although this technique is usually satisfactory 90 percent of the time, manual intervention must also be provided. This feature, with a hyphenation exception dictionary, is currently under development at Soft Logic. You will be able to build a dictionary of hyphenated words that can be used as an exception to the

algorithm. When words must be broken to fit a line, the hyphenation dictionary will be examined first. If the word is not found, then the algorithm will perform hyphenation.

AUTO KERNING - A MUST!

Kerning is a space adjustment made for selected adjacent letter combinations. For example, in the pair of letters "TA", the "A" would normally be set too far from the "T' to be graphically balanced. Kerning adjusts the space or escapement between these types of combinations, and in this example the 'A' would be slightly tucked under the 'T'. The letters 'I' and 'M' with flat surfaces also cause a problem of too little space between the characters. Kerning adjusts by adding small increments of space between adjacent letters. This situation varies with font styles. Fonts with slanted 'M's" do not have the same problems as those that have 'M's" with vertical sides. To address these style problems, *Publishing Partner* will soon release the automatic kerning capability. At the moment, manual kerning of letter pairs is provided and can be performed with the highlighting and "snap to" feature.

GRAPHICS

Are you ready for a graphic? You recall that *Publishing Partner* lets you import mapped graphics from *D.E.G.A.S.* and *NEOchrome*. Portions of a graphic can be selected, and the image can be resized to fit the area where you wish to place it. Once placed in a column, the text will be reflowed or jumped over the graphic. The software cannot at present automatically float the text around the side of a graphic that occupies only a portion of a column width. However, you can create separate blocks or columns to accommodate this situation, or use the menu feature to change text margins within a column layout.

The main screen side bar also gives several graphic capabilities. For example, difference point sizes for lines can be selected to rule a box or border around text and graphics. Border patterns, as well as patterns you design are available. Similar to the features in *D.E.G.A.S.*, facilities are provided for drawing circles, ovals, boxes, boxes with round corners, as well as rays and continuous lines. All of these features combine to give you the necessary facilities to produce page layouts as well as forms. Horizontal boxes the full width of a page can be placed above several columns to form a title area. Invoice forms can be easily designed, and more complicated forms such as the 1040 can be tackled. *Publishing Partner* provides an ideal means for dressing up tabular date reports with graphic quality headings, ruled lines, and typeset date. Text can be printed in a horizontal format or rotated to run down the length of a page.

PAGE LAYOUT OVERVIEW

At any time during the process, you can step back and take a look at page layouts or zoom in for a closer examination of a segment of text. SHOW FULL PAGE reduces the size so that a full page can be displayed on the screen to give an overview of page composition, placement of graphics, and balance between column layouts. Pages can also be viewed double actual size to assist in more precise alignment of elements using the x and y rulers. SHOW MULTIPLE PAGES presents two pages side-by-side for viewing consistency in format. Another helpful feature for examining continuity of a document is SHOW TEXT ROUTING. This will display a three part indicator at the top of each column. The numbers identify the previous column that text was routed from, the number of the column being viewed, and the column number where overflow text has been routed. These are extremely useful tools for reviewing a document before it is typeset.

WORD PROCESSING

The word processing or editing features are basic and adequate. Again, highlighting segments of text works in conjunction with delete, insert, and copying or moving text and graphic between the page and a work buffer. The search feature can be made case sensitive and forward, reverse, or entire text searches can be selected. The search can be canceled at any time during the process. SEARCH and REPLACE provide the facility to search for an abbreviation and replace it with the spelled out text or replace consistent misspellings. As with the other layout features, lines are readjusted and text is reflowed after replacements, insertions, or deletions.

Publishing Partner does not have a spelling checker, and most likely SoftLogik will not develop one. The simple reason is that *Thunder* from Batteries Included works beautifully with *Publishing Partner*.

HIGH POWERED

By now, you probably feel that this software has a lot of power. The amazing conclusion is that these are the types of features found in software ranging in prices from $400 upward. Being a full GEM implementation, these features are easy to use. Software literacy is not a problem with *Publishing Partner*. However, you will have to become conversant with typography and page presentation in a graphic arts form. For example, leading or the space between lines can be changed to give a more open look. Normally, 12 point type is set with 12 points of leading (vertical spacing) between lines. *Publishing Partner* allows you to change leading to 13 or 14 points for slightly more white space between lines. One feature that is highly welcome is the ability to make a similar change in horizontal escapement values or character spacing. Twelve point type can be set on 13 point escapement values to make a looser and more readable line. This is

accomplished with the character spacing option. This feature is not even available on some publishing packages in the $20,000 price range.

PRINTING

What about output? You don't need a laser printer to make use of *Publishing Partner*. Epson compatible dot matrix printers are fully supported. Specifically supported by SoftLogik are the MX and FX-80 along with the compatible STAR SG, NX, SD series, Panasonic, Citizen, and Mannesmann Tally printers. More drivers are on the way.

The printed output does not have the elegance of laser type, but it is considerably better than normal dot matrix output. However, printing is slow on the dot matrix, and you must expect in final form to take from 10-15 minutes a page. This obviously restricts output. The font ROM in the printer is not used. Instead, type is produced in a graphic representation, and as a consequence dot matrix output takes time. Although this output is proportionally spaced and can be produced in a wide range of point sizes, the presentation does suffer from the lack of automatic kerning for some adjacent character pairs. At the moment, the only output font available for the dot matrix is Helvetica -- a sans serif. Soft Logic indicates that a print file should be able to be ported over to a Macintosh and typeset pages produced on the Apple LaserWriter. A status report should be available for the next issue. If it works, you could use a friend's Mac facilities to produce typeset output in the two laser fonts currently available -- Times and Helvetica. Or alternately, one of the local Mac dealers provides time on the LaserWriter at 50 cents per page. The strength and greatest value of *Publishing Partner* is its laser typesetting capabilities. As a prime example of this quality, the users manual was produced with Publishing partner on a LaserWriter connected to a 1040 ST.

PROFESSIONAL SYSTEM

The developers of *Publishing Partner* are not newcomers to this type of application. The owners are in the typesetting and publishing business, and considerable amounts of experience and skill in this application area have been applied to *Publishing Partner*. SoftLogik has clearly made a first for the ST. It places the ST squarely against the Macintosh in the one area where Apple is the current leader -- desktop publishing. And this is only the beginning for a new capability that within a few short years will become almost as commonplace as word processing was some 5 years ago. *Publishing Partner* is a bargain at $150. Few software systems can give you the capabilities and the productivity that are available here. On a scale between *ReadySetGo* 2.1 and *PageMaker* for the Macintosh, *Publishing Partner* is heads above *ReadySetGo* and right up next to *PageMaker*. If Adobe Systems would make their font library available for the ST, this would allow serious competition in the market place and open new avenues for Atari. SoftLogik made a wise decision in supporting the PostScript page description language from Adobe. This is already a de facto standard not only for laser printers but for the much more expensive and higher quality photo typesetters that dominate the industry. Adobe has cornered the laser market by licensing several of the most frequently used typefaces.

NEXT STEPS

As with any first release of a system where self imposed deadlines are trying to be met, there are bugs that must be fixed. *Publishing Partner* does a lot of churning with text, and there are times when overdemands or conflicting signals can cause the system to hang-up. But when importing a text file or restructuring large segements of text, don't panic. Usually there is not a crash. The Busy Bee means just that, a lot of processing is taking place. The number of features supported is amazing, and it is a surprise that such a sophisticated first release does work to near perfection.

I hope that SoftLogik's choice of the ST will lead to bigger and better capabilities for Atari users. And Atari, in its efforts to bring a low cost laser printer to the market, would do well to also form a relationship with Adobe. (Ed note: But apparently they will not. Despite the fact that PostScript works extremely well as a device independent standard and has been accepted for a wide range of typesetters, Big Blue from Armonk is going down another road. Users will be tatooed again unless third party software developers forge a standard in desktop publishing by including PostScript compatibility).

If SoftLogik gets the support it deserves from ST users, refinements and additional capabilities will be forthcoming. Their next focus, in priority order, should be on increasing font capabilities and providing automatic kerning and automatic hyphenation. Late word is that they will be placing a font editor, some more printer drivers, and several more fonts on Compuserve by the time you read this. They are to be congratulated on this first for the ST and their thrust into this new marketplace. It is a major leap for them, for current and prospective ST users, and for Atari.

Editors Note: we had hoped to use Publishing Partner to actually format this review and show you what the package can do. However, there simply was not enough time for the editors to master the program sufficiently to give it a fair showing. However, next month, look for some sample *Publishing Partner* output using 9-pin dot matrix, 24-pin dot matrix, and Laser Writer printers. We will also provide a table of time comparisons using the different printers. For the moment, be aware that it takes a long, long, long time to print a page using *Publishing Partner*. JW]

Flight Simulator II

A Pilot's View: SubLOGIC Has A Winner!

Review by John Lauer

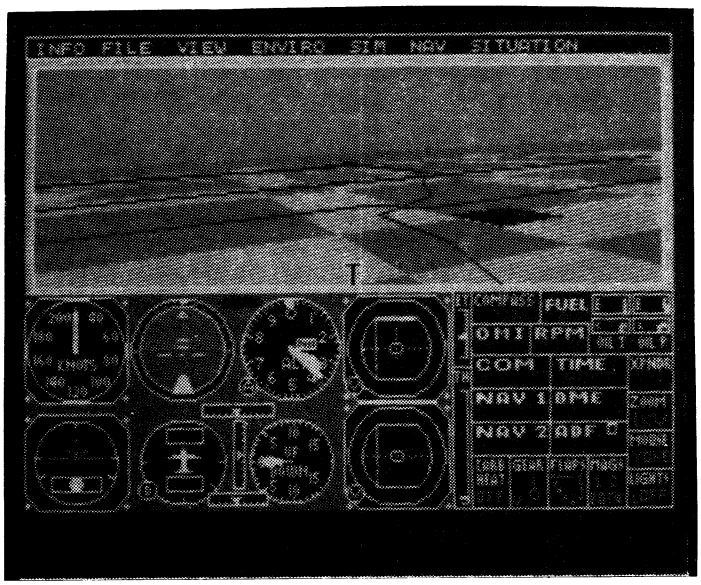
The air is crisp. There is no hint of a breeze. Off to the west, hanging low over the mountain summit, I can make out the rolling, stacked wave of a cloud bank. The fog rolls eerily over the summit and down the leeward side of the mountain only to evaporate.

Tower instructs me, "Gates Triple Seven Juliett, hold short runway three-zero, landing traffic one-half mile." Looking southeast I can see the iridescent lights of a Boeing 727 on short final.

"Roger, Gates Triple Seven Juliett. Holding short runway three-zero". The lights of the big jet flicker as it makes its approach and time seems to slow down.

A few days ago, I was sitting at the end of this same runway in San Jose, California, preparing to take off on a 36-mile flight to Oakland International Airport. The flight plan showed that the trip would take 14 minutes. The McDonnell-Douglas DC9-80 can make the trip in less time, but the mandatory compliance to noise-abatement procedures departing San Jose and the subsequent vectoring assigned by Bay Approach to arrive at Oakland International Airport increases the flight time between the two airports. I made a mental note, that when I got home, I was going to fly this segment 'as the crows fly', spurning the departure procedures.

Now Tower calls, "Gates Triple Seven Juliett, taxi into position and hold runway three-zero".



FLIGHT SIMULATOR II for the Atari ST and Amiga computers. From SubLOGIC.

To my right, the Boeing 727 is rolling out. I reply to Tower, "Roger, Gates Triple Seven Juliett. Position and hold runway three-zero".

After taking the runway, I make one last scan of the instrument panel, looking for anything abnormal.

"Gates Triple Seven Juliett, wind calm, turn right zero-five-zero, climb three thousand. Cleared for takeoff, runway three-zero. Contact departure control one-thirty-four-point-nine".

"Roger. Cleared for takeoff, Gates Triple Seven Juliett".

Satisfied that the plane was ready for flight, I apply full throttles. The engines spool. Centerline markings seem to shorten as the plane approaches its threshold for flight. As the ground falls away the thrill of flying is all encompassing. The visual perspective is there. The instrumentation is telling a story that is already being painted on the windshield of the aircraft. The flight has just begun, but as the crows would fly, Oakland International Airport is rapidly approaching. This flight takes only six and one half minutes. *Flight Simulator II*'s Learjet simulation handles just fine.

Flight Simulator II has all the qualities that would interest any would-be pilot and displays the sophistication that any pilot would appreciate. It will carry the future aviator or aviatrix on a flight of imagination that cannot be matched by any other aviation software for home personal computers to date.

SubLOGIC Corporation of Champaign, Illinois, has brought *Flight Simulator II* to the marketplace with the intention of supporting the product through future updates and additional scenery disks. This is not where the support ends. SubLOGIC also supports the user by answering their phones and then answering your questions. When I called SubLOGIC for background information, I was pleasantly greeted by a representative of the company. I was impressed by the candid responses that I received to my questions. I am a firm believer that a product is only as good as the company that stands behind it. SubLOGIC appears to be committed to this ideal.

I believe the most impressive aspect of this simulation, which is a credit to Mike Kulas, programmer of the ST version, is that it is contained on one disk that includes both the simulator and the 'visuals'. The 'visuals' comprise the data base that defines the world

topography, geography, aerodromes, and structures. In the military, I used professional flight simulators that could not achieve the real time simulation that *Flight Simulator II* so easily handles. It is important to mention that *Flight Simulator II* is not a FLIGHT TRAINER. It will not teach the untrained pilot how to fly. It will present basic flight concepts of navigation, visual orientation, and illustration of flight fundamentals, as its documentation notes.

Flight Simulator II will run on a 520ST with separate versions required for color and monochrome monitors. The software loads automatically and, if no input is detected after 30 seconds, the program defaults to a demo mode. The demo mode is impressive. From a pilots point of view, I had no problem following the demo as it displayed the various facets of the simulation. The novice however, may feel a bit confused by the range of detail offered; just the same, I'm sure that the graphics will more than make up for any confusion until he becomes more comfortable with the program.

Immediate help referral for the untrained pilot is available. *Flight Simulator II* incorporates the HELP key and will provide basic on-line help for information about flight instruments and menu bar items. Information about the two aircraft used, the Gates Learjet 25g and the Cessna 182 RG, can be found under the INFO menu on the Menu bar.

After loading *Flight Simulator II*, I was presented with the view that any pilot would expect when sitting in the cockpit. The control panel had the full complement of primary and secondary flight instruments along with the expected communication and navigation radios. It was all easy to read and was organized in a manner that one would expect to find in the real world. The upper portion of the screen represents the windshield of the cockpit. The graphics of the external environment are not high resolution but they do show proper perspective in just about all flight regimes. Above the screen, a Menu bar presents options that control the simulation.

Through the Menu bar the pilot is able to select which mode he would like to fly - propeller or jet aircraft. A World War I 'shoot-em-up' game can also be selected for a particularly humbling experience. The pilot can select different primary views and even elect to open a second window for a secondary view, all from the Menu bar. The 'views' show the aircraft from a number of different perspectives. These abilities to show the aircraft from the ground, from inside the aircraft, or from another aircraft constitute the heart of the graphic realization. I have never seen any software for a home computer system present these perspectives as realistically as *Flight Simulator II*.

The environment can be manipulated several ways: by changing the seasons, establishing wind direction and cloud decks, or defining the depth of a ground fog for instance. When properly used this feature alone, can add realism that may boggle the mind of an untrained pilot and seriously challenge even the trained pilot. Realism is the heart of this simulation.

The world, as defined in the simulation, is approximately 10,000 by 10,000 miles square with a resolution of about one one-hundredth of an inch. This world includes detailed centers of development that represent geographic areas in and around the continental U.S., San Francisco, New York, and Chicago to name a few.

The program initially places the pilot at Oakland International Airport, but with the Menu bar the plane can be repositioned to any point in the defined world by one of two methods, Position Set or Slew.

Position Set allows North coordinates, East coordinates, and Altitude to be typed in, resulting in the aircraft moving to the new coordinates. This is necessary when present position to destination exceeds fuel/time limitations. Slew will allow the aircraft to move forward or backward and/or change aircraft heading. As an example, this feature enables the pilot to slew the aircraft back several miles on an approach that was just flown. It can save a lot of time if the user wants to practice approaches or landings.

There are about 120 airfields that have been placed in the data base. The accuracy of the airfield mapping is impressive. I have found no discrepancies in the field layouts of San Francisco or Chicago's O'Hare fields, for example. Runways and taxiways are defined but terminal buildings and ramps are not. Notable outside buildings, such as the John Hancock Tower in Chicago and the Transamerica Pyramid in San Francisco are also represented in the data base, as are others. (You can tour the cities if you care to or, if you are more daring, you can even find any number of bridges to fly under.)

The Menu bar provides different options to the pilot. Under 'Situations', selections from a series of prerecorded situations including approach to landing and an ILS approach, to name just two, are possible. These situations will place the aircraft in the defined world under different environmental conditions. The pilot can also create his or her own situations and record them either to RAM or to disk and start flying from it later by recalling it. Instant Playback is also available as an option and allows the user to playback the last 75 seconds of the simulation. This can be interesting: the pilot can watch his own landing or analyze any situation that he finds himself in.

In *Flight Simulator II*, the primary source of input is through the use of the mouse. The simulator can be flown from the keyboard but most users will find the mouse much easier. For untrained pilots, using the

mouse should not be that much of a problem, for habit patterns have not been established. For the trained pilot, it is a bit disconcerting at first, but after a few minutes of practice, using the mouse becomes second nature.

There are two modes from which the mouse can work, Yoke and Cursor. The yoke mode provides direct input to primary control surfaces by movement of the mouse. Sliding the mouse forward moves the nose down, backward moves the nose up, and moving it left or right will bank the airplane. The Cursor mode moves the onscreen cursor (an arrow), allowing the selections of the Menu bar or the control of the radios, landing gear, flaps, and various instrumentation. Toggling the right mouse button will move between the two modes.

Overcontrolling the aircraft may be a problem due to mouse sensitivity. I found adjusting the mouse movement sensitivity resulted in better aircraft control.

Advanced maneuvers tend to present their own special problems. These problems manifest themselves through control inputs or lack thereof and should not be construed as bugs in the software. This difficulty stems from the pilot's lack of the sort of control surface feedback that is normally found in real aircraft. This difficulty is aggravated by the absence of peripheral vision that in a real flying situation would provide cues for response. It's also difficult to manage the rudders when they are not self-centering, as in the real world. A scan pattern is necessary for the proper placement of the rudders, which detracts from a normal scan pattern the pilot would develop. Just the same, with some practice, any aerobatic maneuver can be flown.

TIPS

The untrained pilot can become somewhat frustrated with his inability to control the aircraft smoothly. This frustration will pass with experience. But, there are a few points that can be made that should help overcome this frustration. As mentioned earlier, overcontrolling will be the primary initial problem. This will be due to the large null areas in the mouse movement. These null areas can be adjusted or eliminated by altering the mouse sensitivity. The control response of the mouse is sluggish, but that can be improved by resizing the three dimensional window representing the windshield. Shrinking the screen down to no more than half the full screen size allows for faster screen updating and results in a more scrolled realtime view instead of a jerky movement. You can also turn off the center orientation marker and tile bars to increase the update rate. This action will improve the controllability of the simulation, a nice quality to have when on short final.

For inexperienced pilots, I would recommend the Auto-coordinated mode when flying. The rudders are then tied into the aileron movement and this will provide coordinated turns. Auto-coordinated Mode, however, will remove the pilot's ability to "slip" or cross-control the airplane when landing in a crosswind as the pilot cannot kick the rudders without banking the aircraft.

KNOWN PROBLEMS

Flight Simulator II does have one known problem. In the San Francisco Area, all the ILS approaches are inoperative except for Oakland International's runway 11 ILS approach. At best it is usable to the outermarker then you are on your own. SubLOGIC has stated that the problem will be corrected on its next update to the simulation sometime in the spring.

There are also a few shortcomings to *Flight Simulator II*. Controllability could have been enhanced by utilizing the cursor mode to a greater extent. In the Cursor Mode, the onscreen cursor can control several items located on the instrument panel - flaps, gear, radio frequencies, and other instruments. It would have been nice if the cursor had been programmed to control the throttles and the elevator trim. Additionally, the autopilot can only be accessed by opening the autopilot window under NAV in the Menu Bar. In Cursor Mode, there could have been the ability for heading control and altitude control on the instrument panel, which would eliminate the need for the autopilot window. This inability makes ILS approaches utilizing the autopilot very difficult.

The documentation for *Flight Simulator II* is fairly straight forward and is aimed toward the untrained pilot. The area charts are adequately detailed providing enough information necessary to navigate. The shortfall only appears for a trained instrument pilot, and then only when he is trying to fly an ILS approach. SubLOGIC failed to provide in the documentation the 'approach plates' necessary for the proper execution of the ILS approaches. This does not preclude the pilot from using the ILS approaches, but it does relegate him to flying the approach blind with unknown minimums. It may frustrate the qualified instrument pilot wanting to utilize normal ILS approach procedures, but for most users, this should not be a problem.

Having flown thousands of hours in many different types of civilian and military aircraft, and currently flying the DC9-80, I find *Flight Simulator II* to be a refreshing respite from the regulated and densely populated skies. SubLOGIC has a winner.

John Lauer is a commercial airline pilot flying DC9-80's and Boeing 727's for American Airlines.

PSION CHESS
It Plays Better Chess Faster

Review by Eric Zimmerer and George L. Smyth

Crystal clear graphics and tremendous user friendliness are two of the strong points of *Psion Chess*, but the biggest advantage it has over it's competition is the fact that it plays better chess faster. The opening repetoir is enough to keep any student happy and more than enough to dazzle the beginner. We were off and running less than a minute after slipping in the disk, that's how easy this program is to use.

The chess board is set up initially using three dimensional graphics which are impressive. The pieces are all clearly represented in traditional Staunton design, black and white on a gold and grey board. The mouse is used to select (click) move and release (click) pieces. The menus are hidden on the three dimensional option while the game is in process. When the mouse arrow points to the upper edge of the screen the menus all appear and drop down ready to respond. The pieces glide smoothly across the board and the knights dodge around rather than jump. When a piece calls check the squares connecting the King and the opposing piece are "lit up" and the bell sounds. Illegal moves provoke the bell response and the piece cannot be picked up.

For those chess enthusiasts who have grown accustomed to the two dimensional representation of the chess board, *Psion* provides an excellent two-dimensional board. Again, the pieces are black and white on a grey and gold board. The two-dimensional board is smaller than the three-dimensional board (which takes up the entire screen), and can be moved around to suit the player. In the two-dimensional mode the menu is always visible. The pieces are well-represented and again slide around quite nicely, no blipping in and out. We have grown so accustomed to the *Psion* representation of the pieces that we have almost forgotten how strange computer representations of chess pieces can be. The program we used to use represented Bishops as tombstones and the Queen looked like a hat rack. The *Psion* graphics are comparable to the representations in modern chess books. The King is represented by a crown which is recognizably a crown.

We found the choice of levels to be better than initially thought. Sure, there are many levels available, but the most impressive thing about this is that the computer has the ability to "borrow" time from other moves to keep the specified level as an average. During the course of a tournament chess game, the timing of individual moves is of no importance, but the total time taken to play a specified number of moves is what is measured. For instance, a player may be required to play 40 moves in the span of 2 hours (on his own time clock, of course) or forfeit the game. This averages to 3 minutes per move and is one of the level options available. Our only wish at this point is that a 2 1/2 minute level was available, which corresponds to the average time limit we normally face in a tournament, but the 2 and 3 minute levels appear to suffice sufficiently. One thing we should mention is that the user should not necessarily play at the speed the computer is playing. If you truly want a weak opponent, then set the computer's level at 6 seconds per move and play at a 3 minutes per move pace yourself. Conversely, if you wish to play a very strong opponent, set the level at a 4 minutes per move level and play yourself at a 3 minutes per move pace. If you attempt to play speed chess with the computer we can guarantee that you will get burned every time. we will mention our findings as to the strength of the program's game in a minute.

To select a new game, point to the Game menu and you are given the option of new game, save game, load game or Master game. The Master game option is a special treat for the chess student: a library of 50 of the most dynamic games on record from the masters of chess. Starting back before 1850 with a game by Labordonnais, the library follows the games of the world champions Morphy, Stienitz, Capablanca, Alekhine, Botvinnik, Tal, Petrosian, Spassky, Fischer, Karpov and even Kasparov. The users' pamphlet tells a little bit about each player and the age they played in. (A very little bit) These master games are loaded into the memory and can be played back using the "replay" feature.

The Move menu has all the necessary features like "take back" and "hint." One can offer a draw, change sides and play the other color pieces, ask the computer to show the "next best" move either black or white. The computer can be forced to move if it is taking too long, (highly unlikely) and it can be told to show the best move that it has found so far. For postal chess these last two options are nice. Our favorite move feature is the replay. Not only can master games be replayed, but our games can be replayed, too. we find this to be very educational and very helpful in analyzing just what went wrong. The game may be backed up move by move from the checkmate, or stepped through from the beginning. Either way the replay option provides for reentry into the game at any point. The game can be backed up three moves to avoid proven disaster, or backed up to move three to try a different variation. The master games can also be re-entered as well, so second guessers can see what might have happened if Fischer had played Bishop to King-six against Spassky.

The program provides additional special features like Set Up which allows the board to be set up to play any chess problem or famous position from history.

Again the mouse makes this a joy rather than a pain. The pieces may be picked up and repositioned, or swept off the board altogether. The program provides an Enable Resign switch which gives the computer the option of resigning when the position gets too tough. *Psion Chess* provides a handy clock which may be stopped and reset. The sound can be turned off, and the board position can be printed as well as the move record. The print feature works equally well in two and three dimensional display with a terrific picture of just how the board looks.

STRENGTH

The most important aspect of any chess program is its strength. It does absolutely no good to have a program with all of these nice features but incorporate a weak game. We wanted something which would challenge us. The breakdown in strength is in three areas, the opening, the middlegame, and the endgame.

The Opening. PSION has a fairly decent opening book. We first tried our favorite opening as white, Byrd's Opening, and found the program to be somewhat lacking in its knowledge of these first moves (P-KB4 is white's first move). This didn't bother us much as this opening is very seldom encountered in tournament play. We later tested it with more familiar openings such as the Ruy Lopez, the Sicilian, Queen's Gambit (Accepted and Declined), and several others, and found its knowledge to be quite acceptable. We were able to tell that a sequence was within the program's book because of the program's immediate response and lack of time taken from its clock.

The Middlegame. We found no troubles in the middlegame. Every time we set a middlegame position with the level set to three or four minutes, the computer's response was the excellent as far as we could tell. The middlegame is where this program really shines. Our particular weakness is in open middlegames, and this program took us to lunch in these situations.

The Endgame. Alas, this is the program's greatest weak point. We have yet to see a computer program which is able to handle the endgame well and this program is no exception. It cannot find a mate with a bishop and knight endgame situation within fifty moves, even at a four minute per move level. Keep in mind that we have seen supposedly strong players forced into a draw because they were not able to convert this situation, but any player with a USCF rating over 1700 should be able to do this and this program should exceed this rating. We also used the setup option to create several endgame situations found in the book Basic Chess Endings by Reuben Fine. To state quickly and generally, the program did not fare well.

CONCLUSIONS

We have played many chess programs and find *Psion Chess* to be far and away the best. It's clarity and game strength make it suitable for players ranging from beginner to those having a non-expert USCF rating. Our guess is its rating would be about 1950 in the four minute level. It could perhaps do better if it had a stronger end game, and increased the size of its opening book. For the offered price, $59.95, this is a gem of a program.

Psion Chess, *Psion* Inc., Harcourt Street, London, W-1 H 1 DT, England.

[Editor's Note: This is a combined review from articles submitted separately by the two authors, Eric Zimmerer and George L. Smyth. Next month Psion will go head-to-head with *Techmate* for the ST and Apple's *Chess* 7. Atari has just bought the North American rights to *Psion Chess*.]

TIME TO RENEW?

Look at the first line of your mailing label. If you see 8702, that means your subscription (club membership) ENDS with month 2 in 1987, i.e. this issue. Club members, send renewals to your appropriate club treasurers. Subscribers, send renewals to CURRENT NOTES. If you see an end date of 8703 or 8704, you might want to renew now to be sure you don't miss any issues.

RELAX AND ENJOY
A Look at the Latest in Fun and Games

by Joe Kuffner

Welcome to the first in a series of monthly columns devoted to that part of your computing time reserved for relaxation and enjoyment. What's that I hear you saying? You don't use your ST for enjoyment?? Well, hopefully through this column I will be able to pass on to you news and reviews that will help you along these lines. For those readers who already know how to enjoy their ST, lets hope that I can pass on more information to help you relax that much more!

As you have probably guessed by now, I'll be covering entertainment software, primarily, with the odd diversion to applications or tools that further our way to a "stress-free" computer. So, for now, put away that word processor, spreadsheet, or database program, hang on to your mouse and lets go...

This month I'll be reviewing two new pieces of software, *ST Star Raiders*, from Atari, and *ST Karate*, from Eidersoft as well as touching on some new and old favorites in adventures, parlor games and sports. How's that for covering all the bases (pardon the Star Raiders' pun).

ST STAR RAIDERS

After the long, long wait for *ST Star Raiders*, it has finally arrived and with a BLAST! For those of you who have had the pleasure of enjoying *Star Raiders* on the 8-bit machines, hold onto your hat. This program is 10 times more fun and challenging on the ST. Superb graphics, sound and excellent documentation make this shoot-em-up a winner. You control the sole Atarian Federation Starcruiser. Your mission: destroy the ruthless, mutations known as Zycroids. Ruthless is an understatement, I assure you. Seemingly endless waves of Zycroid fighters (seven different types) are trying to destroy you, your star bases and all the free universe.

The game offers four levels of difficulty, from novice to commander, each offering progressively more complex attacks by the enemy and each allowing you less time to defend your bases. Having selected the appropriate play level, and starting the game (using the mouse), you are then confronted by a galactic map of enemy attack fighters, and your star bases (actual number of bases depends on your chosen skill level). You are looking out from the cockpit of your starcruiser. Gauges and symbols fill the screen. The gauges are quite comprehensive, including a HUD (Heads Up Display), computer and shield status, a tactical viewer (used for map projection, long range projection, and aft scanning), among other readings (energy level, enemy craft disabled, chronometer, etc.). Your weapons: laser cannons (both fore and aft), hyperspace drive, and emergency atomic unit (blasts everything in sector).

Flying your "defense" mission involves both keyboard and joystick dexterity, strong wits and above all accurate shooting/timing. The best fighter, however, is certainly an experienced one. Your first missions may be total disasters, but keep on trying.

The documentation for this program lives up to Atari's high standards. All fighting details are covered completely and concisely with good illustrations. The manual even offers some strategy tips for beginners which I'm sure are useful for seasoned pilots as well. I have only a few points to add that might be useful for inexperienced fighters. First, defend surrounded starbases, choosing the least occupied sectors to begin your attack. Use your long range scanner to locate the enemy within the sector. When entering a sector, use warp 6, then adjust as required. Finally, make sure your shields and computer are on at all times. Its very easy to forget to turn them on after docking with a starbase for repairs. Using these techniques and a lot of practice, I've been able to hold my own against the Zycroids, even at the Commander skill level.

This is a must have program for all arcade game players who enjoy a challenge, both strategically and dexterously. If you haven't yet experienced *ST Star Raiders*, buy it. You won't regret it.

ST KARATE

Now onto a program that is a cross between an arcade game (by destroying everything in sight) and a sports simulation. *ST Karate*, another release from Paradox/Eidersoft is a wonderfully simple, yet, extremely challenging karate game. Wonderful graphics and sound, coupled with ever increasing difficulty of opponents (in the one player mode) and numbers of opponents, make this a winner for karate enthusiasts young and old.

Using the joystick, you cause your on-screen counterpart to kick, chop, punch and jump against a vast array of skilled karate masters. The use of progressively tougher opponents, by the computer opposition, allows you the opportunity to learn while you play (at least until the third round where you will get slaughtered if you haven't learned effective punching/kicking techniques). Bonus kicking "intermissions" allow you to practice your timing as you are given a set amount of time to kick some bouncing vases into dust.

As you become more accomplished, you will have to fight more than one opponent at the same time. Each acts independently, to bring you down. A strategy that I found useful in this situation, is to keep only one fighter within hitting range and never, I mean never, let them get onto both sides of you, or it will most certainly be lights out.

ST Karate has one very important characteristic, which makes it a pleasing winner. It's fun to play, even when you lose. Good solid entertainment.

NEW RELEASES

There are a couple of other new releases that you will want to check out as soon as you can. They are briefly described, by type of enjoyment, below.

Sports: *Championship Wrestling*, from Epyx offers you the chance to be your favorite wrestler and to perform body slams, drop kicks or any of dozens of other wrestling tortures onto your unsuspecting opponents. This game requires a lot of practice to be effective, but once you've mastered the controls (joystick), you'll find the program to be a rage.

Simulators: *Flight simulator II* offers you the chance to be behind the "wheel" of various flying machines. This version is graphically superb and makes excellent use of mouse and keyboard commands. (See separate review on page 47.)

Arcade: *SDI* from Cinemaware, is a superb space shoot-em-up with excellent 3-dimensional effects which requires marked dexterity with the joystick, nerves of steel and a sound attack strategy against the attacking enemy fighters. An excellent space game.

Illustrated Adventure: Activision's new adventure, *Tass Times In Tone Town* offers excellent graphics and a choice of keyboard and mouse commands when interacting. The addition of the mouse really speeds up play, in examining and picking up objects. As with other Activision adventures, clues to the solution are a mixture of verbiage and visual information. Looks great.

Text Adventure: Two new adventures have emerged in the fine tradition of Infocom. Each has a twist to the common rendition of adventuring. The first is *Leather Goddess of Phobos*, in which you are placed into a new vocabulary of descriptions and expletives. The game allows you to decide at the beginning how "raunchy" you would like the language used. Beware! The second new release, *Moonmist*, has you amongst ghosts and goblins in the quest for hidden treasure in a mystery that offers four different scenarios of clues treasures and mysteries. Looks like 4-in-1. For Infocom fans everywhere.

Animated Adventure: *Space Quest*, from Sierra is the latest addition to this category. Using 3-D graphics and windows for parser communication from the keyboard, you must save your planet by rendering a sun creator useless to the enemy. You start in this mission as a sanitation Engineer (aka janitor) and must overcome terrible mental problems. The planet and space station are depending on you...

Hopefully, one of these releases will tickle your fancy, and give you that long deserved chance to relax and enjoy your computer. Each month, I also hope to highlight a program that is a classic, or at least an under-rated program. If you have any suggestions for program classics for the ST, please feel free to write me, care of *Current Notes*, or via the WAACE BBS, or give me a call (see NOVATARI listing). I'll expect to be hearing from you soon. Before I leave you for this month, to let you get back to work, my classic program is *Word For Word*, from Bay View Software, and reviewed in *Current Notes* July/August '86. A "Scrabble-like" word game that, since its release in late '85, has given me hours and hours of relaxing pleasure month after month.

Until next month, hold the stress to a minimum, and remember that your computer is not only an excellent tool for applications, but also, an instrument of pleasure and satisfaction. Keep on playing.

Learning C With MEGAMAX-C

The Preferred Choice for the Beginning C Programmer

Review by Stephen D. Eitelman

Although the C-programming language has been around for several years, it is only recently that it has become popular in the microcomputer community. This has been attributed to the advent of 16-bit machines with their faster CPU's and much larger memories. *Megamax-C* has been reviewed extensively (see what is hoped is a fairly complete bibliography of reviews at the end of this article; BYTE has not yet reviewed it). So why do we need another review? In reading the various reviews, I was struck with one common characteristic of both the authors and the apparent audience: They all seemed to be very accomplished C-programmers. What seemed to be needed was a review written from the point of view of a beginner.

The reviews I found all had another common characteristic: They all were favorable to *Megamax-C*. One of the reviewers was downright exuberant, even to the point of really liking the editor in spite of its obvious deficiencies. None of the reviews addressed the concern here: Is *Megamax-C* well suited to the beginning C programmer? Well, in a word, YES! Even though it is relatively expensive (about $200), I feel that it is well worth the cost. Buying a cheaper compiler "just to learn on" is probably a waste of money because of the many likely deficiencies of such a compiler.

WHAT THE BEGINNER NEEDS

There seem to me to be at least four needs that are important to a beginner in C that are perhaps not so important to the experienced C-programmer. Let's take a look at each.

Speed in compiling and linking. A beginner is going to make a LOT of mistakes in syntax as well as program logic. Writing a program for a compiler requires first writing the source code with an editor. Then the compiler must be called up and run. At this point, most compilers (probably all) will report the syntax errors. Then the editor must be recalled, the source code called up and corrected. Then re-compiled. Then the linker must be called up and run to include the standard libraries, relocate the whole thing in memory and do other sorts of housekeeping chores. More errors usually get uncovered at this point. So back to the edit cycle, then compile, then link and finally run the finished program. Whereupon, the hapless programmer discovers a logic error. And so, once again, back to the edit-compile-link cycle. If this all sounds rather tedious, it is!! If the compiler and linker are slow, it becomes infuriating. Lattice-C nearly drove me crazy waiting for it each time through the cycle. Without a fast compiler package, the motivation to learn C will soon be lost to frustration.

A complete implementation. I have used a subset of the standard C (on an IBM-PC) and as soon as I departed from the tutorial and began experimenting, I found severe limitations. The usual omission is a floating point math package; additionally, in this case, the <stdio.h> (standard input/output header) file was automatically included. Error messages resulted from trying to include it explicitly. There were other similar changes. This is terribly frustrating to a beginner who is having enough trouble trying to understand the language in its standard form without having to contend with serious departures.

Thorough and clear documentation. An experienced programmer has a wealth of previous knowledge to draw upon when the manual is lacking; not so the beginner. Virtually every step of a novice's program is going to generate questions, especially when trying to resolve the error message listing. A poorly written manual is going to result in more de-motivation.

Ease of use. A large number of compiler and linker options serve mainly to confuse the newcomer. The majority of ones effort can easily switch from learning C to learning the intricacies of an extremly flexible package.

MEGAMAX HAS IT ALL

The bottom line of applying these four criteria is that *Megamax-C* is superior in all four; I can vouch from personal experience that it is much faster, the documentation is much more complete and it is easier to use than Lattice-C. Furthermore, the reviews indicate that it is without a doubt the fastest of all the available C compiler packages for the 520/1040ST in compiling and linking. If it is used in conjunction with a RAM disk, its speed is blinding! A short addition program compiles from RAM disk in about three seconds and links in eleven seconds. It produces the most compact code according to the benchmarks in the STart review.

The speed of execution of finished programs is also very fast. In the DHAMPSTONE test, it was the fastest in two of six categories. In three of the remaining four categories, it lost the race by an insignificant amount. In the final case (manipulation of doubles), it was the slowest by a large margin. In my own test of doubles, cosine squared of J for J from 1 to 10000, Megamax was 2.35 times faster than Lattice-C as opposed to 7.2 times slower reported in STart's DHAMPSTONE test. So much for benchmarks!

Megamax-C is also a full implementation of the Kernighan & Ritchie C-language; there are no unpleasant

surprises when trying to do the exercises in a C textbook or trying to venture off on one's own. However, this version is not fully compatible with the extensions or the AES/VDI calls in *Alcyon-C* that has been used to write much of the software in the sample C programs in the *Current Notes* ST library. One of the more instructive exercises, however, is trying to convert these programs to *Megamax-C*, so this is not a real disadvantage.

DOCUMENTATION

The manual is a thick three ring binder that is well-indexed; there is no table of contents which I found to be somewhat of a nuisance. It contains excellent coverage of the AES and VDI calls to the ST's GEM operating system. In fact, the coverage in these areas is very nearly tutorial. There are a total of 17 chapters and three appendices. Some omissions are evident: there is no discussion of the floating point math routines nor is there a detailed discussion of the standard set of keywords; it is apparently assumed that the user is familiar with them. As far as I could tell, the keywords all conform to the K&R standard.

The first page in the book is labelled "Read This First". That is always a comfortable feeling — knowing where to begin! They describe disk configurations and it is at once clear that this is one package that can be used with only one floppy disk drive.

The manual is NOT a text book. For learning the C-language, a good text must be chosen; Waldenbooks, B.Dalton Booksellers, bookshelves at computer retailers, and local libraries are all good sources of books on the C-language. And they have certainly proliferated. The standard reference is The C Programming Language by Brian W. Kernighan and Dennis M. Ritchie. Every article on C says you must have it, so I will too: you must have it. But frankly, it's very hard for the beginner to use. It is just too concise. But it's all there. The book I have used for some time now and quite like is C Programming Guide by Jack J. Purdum. It is written very clearly and goes into the detail necessary for a beginner, but stops short of smothering the reader. The author has also written an excellent companion guide titled C Self-Study Guide which is done in workbook fashion with lots of problems to work through. Each chapter includes answers to the problems written in a style reminiscent of Schaum's Outlines. Also, there is a tutorial series of articles in Analog magazine's ST Log section written by Claynum Walnum. This series gets about as much teaching done in as few words as I can imagine. The series began with the February 1986 issue and continues.

THE COMPILER, LINKER, AND SHELL

The compiler is called a single pass compiler. This means it only goes through the source code once. This may sound trite, but it's not: most compilers go through the code at least twice and some more than that. The single pass compiler is very fast because of its single pass. The compiler averages 6.92 times faster than the other compilers covered in the two STart reviews shown in the bibliography. But how they handle forward address references in a single pass, I just cannot fathom. The only complaint I have seen is that files are limited to 32K bytes long. Tsk, Tsk. How often is this going to be a limitation for the beginner? I certainly have not bumped up against it. For the advanced programmer, there is a chaining capability, so it is not really a limitation.

The linker is also quite fast; the comparisons in the two STart reviews show times averaging 2.58 times faster than the linkers in the other packages.

Now for my one complaint: The cursor control arrangement in the editor is very awkward. The arrow keys do not move the cursor; instead they move a "viewing port" (the screen) around on a large sheet fixed in space on which the text is printed. The rather disconcerting effect is that the left arrow key moves all of the text to the right; the right key moves text left; the up arrow key moves text down and the down key moves text up. Additionally, there are two cursors: one is the usual blinking rectangle that marks the position of the next character. The other is Megamax's version of the mouse arrow, a vertical line with crow's feet on each end. The only way to move the text cursor is by moving the mouse cursor and then clicking on the new position, meaning removal of one's hands from the keyboard. I found this entire arrangement so annoying that I stopped using their editor. A very simple solution turned out to be to substitute a word processor for EDITOR.PRG; I used 1ST Word and have been very happy with it, although there is no automatic indenting.

The Shell is a delight to use. It is GEM-based and one only has to select from the drop down Execute menu to get the editor, linker, disassembler, librarian, compiler," other" (executable program) or "make" facility. All the commands are menu and dialog box based, so there is no need to learn command line protocols. There is a Locate drop down menu to set the drive on which the various pieces of the compiler package are located if their locations are different from the one on which the shell is located.

SUMMARY

I think *Megamax-C* is the preferred choice of a compiler for a beginning C-programmer. It is fast in compilation and linking, produces very compact code, executes very rapidly, and is easy to use. It is a complete implementation of Kernighan and Ritchie C and offers what is probably the best documentation on the market today. It's a little expensive at $200, but should serve the beginner and the advanced programmer alike extremely well.

A word of caution is in order: This article was based solely on my own experiences while learning C.

These experiences are not necessarily representative of the needs of others. So read the reviews in the bibliography and decide if my claims as to what is important apply to you before buying.

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Comparing ST Word Processors

Largely a Matter of Personal Choice

by Milt Creighton

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THIS MONTH: ST Writer, 1ST Word, Boffin, Text Pro, HippoWord, Word Writer ST, and Regent Word II.
NEXT MONTH: HabbaWriter II, Boffin (updated), and (possibly) MicroSoft WORD.

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Like underwear and automobiles, word processors are largely a matter of personal choice. We buy word processors for all sorts of reasons, but the program we will use most often is the one we are most comfortable with. For most of us, that means the word processor we know best (possibly the first one we learned and the only one we know), the one we hope will cause us the least amount of trouble. Word processing is supposed to be a timesaver, after all. If we find ourselves constantly forced to pour over manuals while we search for obscure commands with which to perform simple but necessary functions, it just isn't worth it. Better to get out pencil and paper and go back to the dark ages.

Early word processors for the ST tended to be fairly basic in their design if they utilized GEM (like *1st Word*). Others were ported over from other machines (such as 8-bit word processors like *ST Writer* or 16-bit translations like *Final Word*). On the one hand, the early GEM-based programs had a certain elegance and grace but little sophistication while, on the other hand, the translations were often powerful but clumsy by comparison. Since both *1st Word* and *ST Writer* were either bundled with ST computers or could be had for the asking, there seemed little reason for most of us to buy the early commercially offered programs. A waste of money, we thought, unless a particular favorite had been ported over to the ST.

THE BIG CHOICE

Now there are more than a dozen word processors available for the ST line and more on the way. The newer ones are both GEM-based and have a good deal of power to offer as well. On-screen formatting, display of multiple typestyles, and a complete array of block operations between multiple files are available in many. A few still use a preview screen for viewing the final version which permits the user to see the formatting codes on the work screen, but this approach doesn't appear to be as popular in the newer products. Some of the new offerings also permit the integration of graphics and text within a single file -- certainly one distinction of second generation ST word processors.

One of the disadvantages of having so many word processing programs on the market is the difficulty of making a choice between them, especially if there isn't time or opportunity for research. That's where this article can be useful. It compares five of the newest ST word processors to more than 80 criteria and presents the results in tabular form. The first two entries in the table are *ST Writer* (version 1.50) and *1st Word* (version 1.06). These latest versions of "freeware" should be viewed against the commercially available word processors, especially in the areas which are most important to you, before you decide to go out and spend your money.

The criteria used in the table include some that Ian Chadwick used in his article in the second issue of START magazine but I have eliminated others and added some of my own. In addition, with a few important exceptions, whenever all of the word processors met or failed to meet a certain criterion, that criterion was eliminated from the table. The purpose of this article is to point out the differences between the compared programs, after all, not the things they all had in common. I deliberately have not made any attempt to rank-order the entries in any fashion. To do so would be to insert my own prejudices into what is essentially a personal choice; the perfect word processor for me might be ill-suited to meet your own needs.

The commercially offered word processors compared in this article include *Text Pro* (see full review in this issue) by Abacus Software, *Boffin* from Software Punch in the UK (not yet available in this country although an updated version will reportedly be offered for sale here), *HippoWord* from Hippopotamus Software, Inc., *Word Writer ST* by Timeworks, and *Regent Word II* from Regent Software.

All of the newer word processing programs emphasize certain areas which the author(s) believed important. Consequently, each will have relative strengths and weaknesses vis a vis the others. *Boffin*, for example, heavily emphasizes its graphics capability, but less attention is paid to block operations or certain editing functions. *HippoWord* has very powerful "search and replace" operations, in fact, they are more extensive than I've ever encountered before. In addition, it has the ability to integrate graphics and text -- but you had better make sure your printer is supported or you will find yourself shelling out another $49.95 to create your own printer driver (assuming you know how to alter C code). As other examples, *Regent Word II* is the only one to offer microdot justification and *Text Pro* should be a favorite of C programmers because of its automatic formatting capabilities. Finally, *Word Writer ST* is an excellent all-around first generation ST word processor because of its power and ease of use and it has the best written manual of the lot.

WORD PROCESSOR COMPARISON

Feature	ST Writer	1ST Word	Boffin	Text Pro	Hippo Word	Word Writer	Regent Word2
Cost	Free	Free	?	$49.95	$89.95	$79.95	$99.95[1]
Copy Protected	No	No	Yes	Yes[2]	No	No	Yes
SCREEN DISPLAY:							
GEM-based	No	Yes	Yes	Yes	Yes	Yes	Yes
Number of Files in RAM at one time	1	4	1	1	1	4	1
HELP screens available	No	Yes	Yes	No	Yes	Yes	Yes
What-you-see-is-what-you-get	No	Yes	Yes	No	No	Yes	Yes
Integrated text and graphics	No	No	Yes	No	Yes	No	No
Display multiple typestyles on-screen	No	Yes	Yes	Yes	No[3]	Yes	Yes
Display multiple fonts on-screen	No	No	Yes	Yes	Yes	No	No
User-definable fonts	No	No	Yes	Yes	Yes	No	No
On-screen justification	No	Yes	Yes	No	Yes	Yes	Yes
Shows page breaks on-screen	No[5]	Yes	Yes	Yes	Yes	Yes	Yes
Displays current page number	No	Yes	Yes	Yes	No	Yes	Yes
Capslock on/off indicator	Yes	No	Yes	No	Yes	Yes	No
COUNTERS							
Column counter	Yes	No	Yes	Yes	No	No	No
Word counter	No	No	No	No	Yes	Yes	Yes
Line counter	No	No	Yes	Yes	Yes	Yes	Yes
Page counter	No	No	Yes	No	No	Yes	No
Remaining RAM counter	Yes	No	No	No	Yes	Yes	Yes
CURSOR MOVEMENT							
Move cursor to line/page number	No	No	Yes	Yes	No	No	Yes
Page screen up/down	Yes	No	Yes	Yes	No	Yes	Yes
Move cursor word by word	Yes	No	Yes	Yes	Yes	Yes	No
BLOCK OPERATIONS							
Move block/copy block	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cut & paste block	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cut and paste between screens/documents	No	Yes	No	No	No	Yes	No
DELETE OPERATIONS							
Delete line	Yes	No	No	No	Yes	Yes	Yes
Delete word	No	No	No	No	No	Yes	No
Delete block	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Delete to end	Yes	No	No	Yes	No	Yes	No
Delete file from disk	Yes	Yes	No	Yes	No	Yes	No
PRINT FUNCTIONS							
Permanent printer driver selector	Yes	Yes	Yes	Yes	Yes	Yes	No
Can send special printer codes	Yes	No	No	Yes	No	Yes	Yes
Print only selected pages	Yes	Yes	Yes	Yes	No	Yes	Yes
User definable printer drivers provided	Yes	Yes	Yes	Yes	No[8]	Yes	Yes[9]
Page wait command	Yes	Yes	No	Yes	No	Yes	Yes
Print document from edit	No	No	Yes	Yes	Yes	Yes	Yes
FORMATTING							
Alternate headers and footers left & right	Yes	Yes	No	Yes	Yes	Yes	No
Multiline headers and footers	Yes	No	Yes	Yes	Yes	No	Yes
Multiple column capability	Yes	No	No	Yes	Yes	No	No
Variable line spacing	Yes[4]	Yes	Yes	Yes	Yes	Yes	Yes
Forced page break capability	Yes	Yes	No	Yes	Yes	Yes	Yes
Subscript/superscript commands	Yes	Yes	No	Yes	No	Yes	Yes
Indent/outdent feature	Yes	Yes/No	Yes/No	Yes	Yes	Yes	Yes
DISK/FILE OPERATIONS							
Can save an ASCII file	Yes	No	No	Yes	No	Yes	Yes
Accepts other word processor files	Some	Some	Some	Yes	Some	Some	Some
Accepts ASCII files	Yes	No	Yes	Yes	Yes	Yes	Yes
Can format disk from within program	Yes	No	No	No	No	Yes	No
Can merge files from disk	Yes	Yes	Yes	Yes	Yes	Yes	No
Can delete files from disk	Yes	Yes	No	Yes	No	Yes	No
Automatic backup of files	No	Yes	No	Yes	No	Yes	No

Feature	ST Writer	1ST Word	Boffin	Text Pro	Hippo Word	Word Writer	Regent Word2
MACROS							
Has macro capability	No	No	No	Yes	Yes	No	No
Uses function keys[6]	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Uses alternate key[6]	No	No	No	No	Yes	Yes	No
User-definable function keys	No	No	No	Yes	No	No	No
SPECIAL FEATURES							
Integrated outline processor	No	No	No	No	No	Yes	No
Integrated spelling checker	No	No	No	No	No	Yes	Yes
Print sideways	No	No	Yes	Yes	No	No	No
Specify block to be printed on same page	No	No	No	No	No	Yes	No
Integrated label maker	No	No	Yes	No	No	No	No
Integrated drawing program	No	No	Yes	No	No	No	No
Integrated chart maker program	No	No	Yes	No	No	No	No
Change point size of text	No	No	Yes	No	Yes	No	No
Rotate letters on-screen	No	No	Yes	No	No	No	No
Mail merge capability[10]	Yes	No	No	Yes	Yes	No	Yes
Auto hyphenation capability	No	No	No	Yes	No	No	No
Index generator	No	No	No	Yes	No	No	No
Table of contents generator	No	No	No	Yes	No	No	No
Auto C-source format	No	No	No	Yes	No	No	No
Integrated Calculator	No	No	No	No	No	No	Yes
Microdot Justification	No	No	No	No	No	No	Yes
MISCELLANEOUS							
Printed manual/indexed	No/No	No/No	Yes/No	Yes/Yes	Yes/Yes	Yes/Yes	Yes/Yes
Pages in manual	38	42	39	68	45	142	54
Uses all free RAM	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hard drive compatible	Yes	Yes	No	Yes	Yes	Yes	No
Uses mouse/keyboard commands	kybrd	Both	Both	Both	Both	Both	Both
Word-wrap on/off toggle[7]	No	Yes	No	Yes	No	Yes	No
Can edit >80 columns	No	Yes	Yes	Yes	Yes	Yes	Yes
Insert/typeover toggle	Yes	Yes	Yes	Yes	No	Yes	Yes
Work screen/print preview screen	Yes	No	No	Yes	Yes	No	No
Column marker	No	Yes	No	No	No	Yes	No
Reformat paragraph command	N/A	Yes	Yes	No	N/A	Yes	N/A
Reformat entire document command	N/A	No	No	Yes	N/A	Yes	N/A
Global search and replace functions	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Footnotes to Table: N/A = Not Applicable

[1] The price of REGENT WORD II will be reduced to $79.95 on 15 January 1987.

[2] While TEXTPRO is copy protected, it is possible to copy the program to your hard disk and, as long as the original disk is in drive A when the program is booted, it will run without problem.

[3] Although HIPPOWORD cannot display multiple typestyles on its workscreen, it can on its preview screen.

[4] Earlier versions of 1ST word would not double-space but the most current version does have that capability.

[5] ST WRITER displays page breaks on its print preview screen but not on its work screen.

[6] Word processors that do not have macro capability but are GEM-based can often make use of commercially available macro programs such as ALT or ST KEY. However, if the function or <alt> keys are used by the word processing program, they will not be available for use by any other program.

[7] Typing a large table into a document when the word wrap feature is activated can be a frustrating experience. Those word processors which do not have the ability to toggle word wrap on and off usually permit their right margins to be reset to very wide maximum widths, thus accomplishing the same thing for all practical purposes.

[8] For an additional fee Hippopotamus Software provides a printer driver installation program written in C which must be modified for your printer and then compiled. If you aren't a C-programmer, the driver creator won't be of much help to you.

[9] REGENT WORD II provides a printer driver creator in later versions of the program but it is not made clear in the documentation how to use the installation program. You must NOT access the "choose printer" menu at any time if you want the program to use the driver you have created. However, if you choose the "print" option without choosing a printer type, REGENT WORD II will default to your user-defined printer driver.

[10] Most, if not all, of these programs require a compatible data base or mail merge program in order for this feature to work. ST WRITER includes a basic internal mail merge capability as does TEXT PRO. HIPPOWORD may require HIPPOSIMPLE, WORD WRITER ST requires DATAMANAGER ST, and REGENT WORD II requires REGENT BASE or REGENT WORD II MAIL MERGE (sold separately for $24.95)

To make proper use of the information presented here, first identify your word processing requirements. Do you intend to use your word processor as a text editor in writing programs? Do you plan to use it to write the Great American Novel? Do you want to use it for business correspondence or do you just plan to write an occasional letter to Mom? Once you've identified your own requirements, take a look at the table and see which program comes closest to satisfying your needs. Then bounce the price of that package off what you get for free with *ST Writer* and *1st Word* to decide whether it's worth it.

It might also be worthwhile to point out that you should insure the specific make and model of your printer is supported by the program you buy. This can be critical if the word processor you are buying has the capability to integrate text and graphics. In this case, close isn't nearly good enough. The graphics drivers have to be written very carefully to support each make of printer and I have found "Epson-compatible" usually doesn't apply in graphics mode -- even with Epson printers. So be sure to check it out before you buy.

Perhaps, like me, you won't find one word processor which will solve all your word processing requirements. If so, this table may save you some money by eliminating the more obvious non-candidates. This won't be the last time you see this table, either. As other word processors are released for the ST machines, they will be compared to the same criteria (and perhaps some new ones as well). Next month the second installment will include an updated version of *Boffin* (probably the one which will be offered for sale in the US), the latest pre-release version of *1st Word Plus*, *HabaWriter II* (reportedly all the rage in Europe), and possibly Microsoft *Write* (if it's released in time). In the meantime, enjoy looking over the many features of these recent offerings and you'll see that, in word processing at least, the Atari ST machines are second to none.

POLYDISK
RAM Fantasy or Fact

Review by H. B. Monroe

Polydisk is a .5 meg memory up-grade cartridge for the ST. When I first read about Polydisk I wondered who would need or want an external .5 meg of RAM. Would the ST RAM just lie idle while the Polydisk was being used? Is Polydisk the software developer's dream (fast compiling) come true or the poor man's hard disk?

Experience in using the Polydisk has provided affirmative answers to most of my questions and I believe that a lot of people will find Polydisk to be a welcome and useful addition to their ST. The Polydisk cartridge adds 512K bites of memory to the ST through the cartridge port. This means that on the standard 520ST you have the use of a lightning fast RAM disk up to about 1 meg in size. The ST 1040 or an enhanced ST 520 will be able to use up to about 1.5 megs in the RAM disk. A RAM disk larger than 503k, takes the additional RAM from the computer memory. Each RAM disk uses 9k of memory so the RAM disk is always 9k less than the amount of memory used. Therefore the RAM disk is limited in size by the total amount of resident ST Ram plus the Polydisk Ram minus the memory used by TOS and minus the memory used by the RAM disk. After a computer crash press the reset button to fully restore, without loss of contents, a ramdisk setup for 503K or less.

According to Fran Sabolich of the Polyware ST company, the people who are currently useing Polydisk are mostly software developers who need the Polydisk speed, which is superior to a hard disk, and the added RAM. Fran says that handy owners can increase the size of Polydisk to 2 Megs.

Suitable software and instructions come with Polydisk.

I think that many will want the speed of polydisk and will find the price far more acceptable than the price of a hard disk.

The only drawback (a whopper) to Polydisk is that the RAM disk is wiped clean each time the computer is turned off. This means that you must copy to the RAM disk all the programs that you want to use each time you turn on the computer. Of course this can be done automatically with the autoload feature of the ST and may not be too much to pay for the blinding speed and added memory of Polydisk.

The Polyware Company is now developing a battery for the Polydisk which will hold the memory for about five hours after the computer loses power. Sabolich says that the software developers who are currently using the Polydisk are requesting the battery addition to protect the work in progress in case power failure occurs or the computer crashes.

Polydisk Clock and Poly Battery Backup are optional accessorys that can be added to Polydisk.

Polydisk, $199.95. Polyware ST, 5715 Horning Rd., Kent, Ohio 44240. (216)-673-5591 (call after 16:00).

TRIVIA CHALLENGE
For Those Titillated by Trivia

Review by Don Elmore

If you were asked if the old woman who lived in a shoe fed cookies, broth or Xmas pie to her children, I am sure you would respond..broth. And, of course you know that Princess Anne was Prince Harry's aunt, vice mother or sister. And if you had to choose among "Them," "Pretty Things" or "The Doors" for the group with which the late Jim Morrison sang....of course, you would pick "The Doors!" One stroke, two stroke or no stroke penalty for a golfer's ball disintegrating? No stroke, naturally (and no it is not necessarily a medical problem). Morpheus was the Greek god of sleep, not luck or dreams...and everyone knows that a dolphin has approximately 200 teeth, rather than a paltry 64 or even 100. Ahhh, but did you know that the world's heaviest chiming bell is not Big Ben or Great George, but Great Paul! And the list goes on....and on.

Michtron's recent release, *Trivia Challenge* is just that. A challenge! In the instructions, the introduction describes *Trivia Challenge* as "a quiz game designed along the lines of many of the gambling games which have now become so popular in the pubs and arcades." Not being addicted to the former (pubs) and due to a geriatrically induced condition of digitary psychomotor retardation, certainly not frequenting the latter (arcades) ..... I cannot comment on the accuracy of Michtron's description. But, I can (and do) humbly offer the opinion that *Trivia Challenge* can easily become habit forming. The questions are varied, both in context and content. They range from relatively easy to fiendishly difficult. That, plus the fact that you are playing against the clock, makes for a lively session, regardless of the player's expertise in the "trivia" field.

For those not familiar with pub or arcade machines, playing the game will take a certain amount of practice. Booting the game is straightforward, simply double-click on the TRIVIA.PRG icon and when the game is loaded, you are facing the playing screen. The money window shows $10.00, your "stake." By clicking on the appropriate boxes, you deposit some money (in increments of either $0.25 or $1.00) in the insert money box and receive playing "credits." A quarter deposit gives you one credit; a dollar deposit, five credits. You play your credits, one at a time, by clicking on the PLAY box and when you have run out of credits, you have to "insert" either another quarter or dollar. By answering the questions correctly (in the least amount of time), you win points, and after winning a certain number of points, you "earn" money. The threshold is 1000 points, get more than 1000 points and you win a dollar, more than 1500 points, a dollar and a half .... etc. However, answer two questions incorrectly and you lose the credits with which you are currently playing, and that particular turn is over.

When you begin to play, the default category is General Knowledge. There are two horizontal windows along the lower portion of the screen. The first window displays the trivia question, and the window directly below it, shows three possible answers. There are no "trick" answers, the correct answer is always one of the three possibilities displayed. As soon as the question and answers are displayed, a digital clock shows 12.0 seconds and then starts counting down towards zero. If you guess correctly in (for example) the first ten seconds, you are awarded 100 to 105 points. A correct guess with some five seconds remaining will usually net you approximately 50 points. As stated above, if you get "on a roll" and build your points to over 1000, your "Cash" box automatically increases from $9.00 to $10.00. This reviewer has yet to worry about breaking anybody's bank.... This game definitely requires a sure hand because you are playing against time constraints. Once the questions begin, you are locked on until you either run out of credits (or money) or deliberately click on the "Abort Game" option in the drop-down menu. There are no "breaks" or pauses that might refresh.

As mentioned, the default "subject" is General Knowledge, but by dropping down the Options menu, you can select from Sports, Art, Pop Music or Science. Michtron's instructions caution you that General Knowledge is for everyone, but the special categories are decidedly for specialists. They are! There are some 2,000 questions in the General Knowledge category (with only 40 repeats), and approximately 500 each in each of the special groups. I have enlisted the help of my family .... and can attest to Michtron's description of the subject matter. My teenage son (and daughter) literally tore into the Pop Music category, and my wife is a tiger in the General Knowledge specialty. I charged into Science and Art, but must admit that (given my rather sedentary nature) coverage of the Sports category was somewhat less comprehensive. Don't equate my aggressive approach to the categories with financial success .... I never claimed making money at the game. I merely said that we did do battle with all of the categories....with varying degrees of success.

In addition to the categories described, the game has a neat "Do-it-yourself" option where you can make up your own questions in the subject of your choice. The instructions are clearly written, the process works .... and if you want to talk money .... I can make a mint playing the category that I have designed for myself!! So, there!

Any negative aspects to the game? Not really. When I first tried to boot the game, I kept getting a

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APSHAI TRILOGY
Three Games for the Price of One

Review by John L. Crowll

If you like playing games for the Atari ST then don't read any further. Rush right out and buy *Temple of Apshai Trilogy* from EPYX. There is no sense in wasting your time reading this article when you could be playing this fine game. This is one of the few games for which I can truly say that there is nothing about it I do not like.

There are many remarkable aspects of *Apshai Trilogy* which just beg for an explanation. First of all, as the title implies, *Apshai Trilogy* is actually three separate games: *The Temple of Apshai, The Upper Reaches of Apshai*, and *The Curse of RA*. But that's not impressive in itself. What is impressive, though, is that one gets all three games for the price of a single game! Now if that's not a bargain, I don't know what is. All three games are part of the EPYX DUNJONQUEST series. This is simply the name given for the procedures by which the computer keeps track of all the decisions and actions in the game.

The DUNJONQUEST series was originally designed for the Apple computer. It was a hit on that machine and I predict it will be a hit on the Atari. Even if a person has owned any of the DUNJONQUEST series games for other machines, I would strongly suggest purchasing this game for the Atari. The technological developments in the past few years which have enabled the Atari to be the machine that it is shine forth in this software. The graphics and sound (yes, sound) of this version are a wonder to behold. But enough of why it's such a finely constructed game, let's look at its playing features in detail.

After the game is booted and TEMPLE.PRG is executed, we are greeted with the cover art of the instruction manual in living color. The detail in this picture is truly astounding. The only way it could have been improved would have been to have movement in some of the figures. We are also serenaded by a song (it's 51 seconds long so don't hit that Return key too soon) that sounds similar to the audio of the Atari video games in your local arcade. After pressing the [Return] key, we are presented with the Innkeeper Screen.

The Innkeeper Screen will allow one of the following options: restore a saved game, load a character, create a new character at random, enter own character. The last option permits the selection of a range of values (3 to 18) for several qualities (strength, dexterity, etc.) and the selection of armor and weapons for a character from a non-computer role-playing game system. If a random character is created, we are then shown the Innkeeper's Character Screen.

This screen provides a summary of the character qualities/possessions (armor, weapons, etc.) and permits the purchasing of some of these same items to increase the character's chances of survival in the dungeon. After all desired items have been purchased the character may enter any one of the three scenarios or be saved to disk. When a scenario is selected a choice from four levels may be made (one is easiest, four the hardest). After that, it's on to hacking and slashing.

Upon entering a dungeon level, we are presented with the Apshai Adventure Screen. This screen is divided into two parts. The right section displays the room number the character occupies (a description of which can be obtained in the playing manual or from a GEM menu) as well as information pertaining to the health of the character, healing potions and arrows carried, battle reports, and treasures as they are found (the last two items displayed only as required). The left portion of the screen displays the room occupied by the character, any monsters to be fought, any treasures to be found, and any traps (if discovered before being set off). All commands which direct the actions of the character may me entered by keyboard or from GEM menus.

It is at this point that some of the finer points of the game become evident. When the character moves, not only do we hear his footsteps (shuffle, shuffle) we also see his legs move. Not simple movement, mind you, but bending knees and ankles! Truly a sight to behold considering the size of the character. Every monster has its own accurate representation of its form. Although they do not display movement in combat as the character does, I don't think it would add much to the game if they did. Sound is prevalent throughout the dungeon. Every monster killed, every door opened, every treasure picked up provides us with a unique little tune as a reward.

At the point at which prudence (evidenced by a dwindling health level and few healing potions) demands an exit from the dungeon, a summary screen will be displayed indicating the treasures discovered during the latest outing and a valuation in silver pieces of their worth. Again, we are entertained by another lengthy tune so don't hit that [Return] key too soon. When we are finished here, we return to the Innkeeper Screen and can continue playing or save our character to disk. By the way, we can save a game in progress in case the sandman comes knocking at the door. There is no need to exit the dungeon to be able to exit the game. This is an option which I consider a must in any game of this sort. Having to fight ones way out of a dungeon (which in some games takes quite a while) before being able to quit has lowered the rating of many a game in my book.

One very nice thing about *Apshai Trilogy* is that if the games have been played by an individual in the past, the dungeon layouts have not changed and previously made maps will guide the way through the ST version. A definite time saver. If playing *Apshai Trilogy* for the first time, you'll enjoy mapping all 568 rooms (233, 156, 179 respectively). I find *The Upper Reaches of Apshai* to be one of the more interesting and amusing to explore. It does not contain your garden variety of monsters and some individuals may feel squeamish at taking some of them on. Also, if you liked the movie The Attack of the Killer Tomatoes, you'll really love the first level of *The Upper Reaches of Apshai*.

If you are asking yourself, "But what is the goal of all this hacking and slashing?" -- I'm not really sure. I haven't finished all three scenarios myself and, other than the pure enjoyment of adventuring, there is not a well-stated goal in the instruction booklet. There is, however, one clue. Since *The Curse of RA* scenario is listed last, one can assume that any goal as such would be found there. The rules do state "This is the last of the Apshai journey, wherein you will learn the secret of the CURSE, and perhaps learn your own fate." Enter the realm of APSHAI for yourself and determine its secrets. I'll see you on level four of RA and pray that you'll never be found by Olias the Dwarf.

TRIVIA CHALLENGE (Continued from Page 61)

scrambled screen .... but that particular glitch appears to have corrected itself (threat of physical abuse might have convinced all of the little electrons in the program to pull together!). About the only negative observation is that after you play the game and then either abort or quit .... the resulting screen is black. On second thought, perhaps that is Michtron's evaluation of the overall quality of my play ....? While talking about colors .... if I didn't know that Michtron is physically located in Michigan, I would have bet money that the program was written in Colonial Williamsburg. Each of the category screens is a different color, and they certainly offer no competition to Wheel of Fortune. I am looking at olive drab, basic grey, dull orange ... etc. Perhaps Michtron did that deliberately in order not to psychologically distract the player. It certainly does not take full advantage of the ST's impressive color repetoir. I don't know. I do know that once I became used to the pub/arcade approach, I quickly donned my armor and wildly brandishing Excaliber .... I rode into the breech. On balance, I believe that it is a good game and if you are at all titillated by trivia, one that is well worth adding to your ST library.

ST TEXTPRO
Impressively Powerful and Useful

Review by Dorita Sewell

ST TextPro is a 1986 GEM-based word processor with an impressive set of features and few inconveniences. It costs about $50 and comes from Abacus Software. *TextPro* combines useful features of *1st Word* (GST) and *ST Writer* (Atari) with additional features like vertical and horizontal printing, alphabetical and numerical sorting, mail merge, and making tables of contents and indexes. For people who, like me, want to work with long documents, or who want to do real office work, it has its attractions.

TextPro's special features include automatic hyphenation, a solution to my sad history of finding long empty spaces from words like "antidisestablishmentarianism." The hyphens show up only when you print, so this feature makes a significant difference between the printout and the screen display. The documentation says it occasionally tosses in a hyphen that shouldn't be there, too, so I am inclined to toggle it off, though it seems good in theory.

The special features mentioned above will alphabetize long lists; write successive mass letters with individualized inside addresses, direct address phrases, and messages; and make tables of contents of chapter headings and indexes for marked words. It would be nice if the indexer gave more than 20 page-references per word, but it is pretty useful as it stands. With block moves, it could also help organize voluminous notes and information stored on the ST. The search function of other processors could make indexing easy, but an indexing capacity is nice, and a sorting capacity isn't similarly easy to home-make, at least not for me.

TextPro also merges files for printing and does headers, footers, page numbers, multiple columns, table manipulations, various printing styles, and other manuscripting helps, and offers the foreign letters of the Atari character set. And with some manipulation, *TextPro*'s sorting could make bibliographies less trouble. With these features and its helpful inputting set-up, *TextPro* is especially useful for doing books and massive notes.

TextPro's inputting set-up is easy to use and efficient. There are 30 programmable function keys, using [Alt] and [Ctrl]. There are keys for all sorts of cursor moves and delete capacities -- including by word, sentence, and paragraph -- and lots of slots for macros. You can input the date and time with a keystroke. The names and letters of the keys and the functions of the keys do not seem to work as well mnemonically as they do in some processors I am familiar with, but a system you know probably always seems more reasonable than an unfamiliar one. On the other hand, the documentation, especially that on the disk, does not pay a lot of attention to the effectiveness or correctness of its words, either. I wish it had fuller information and were more carefully written.

TextPro has some of *ST Writer*'s wonderful features, like the constantly useful uppercase / lowercase toggle and nonerasure of usable characters as you back-space through a command. It gives you keys to escape so you do not have to print or search-and-replace until you are bleached bones. But it lacks the addictive and very useful *ST Writer* feature of returning you to your last place in the file after any outside operation. *TextPro*'s search function only works downward, and for it to be thorough, you have to toggle word-wrap off -- a privation, but not one that subtracts any actual capacity. It doesn't have an "UNDO" function for retrieving erasures and repeatedly stamping this or that onto a number of files.

Like *1st Word*, *TextPro* shows you the margins of your text as they will be printed. You can check for inappropriate double spaces, antidisestablishmentarianism-type gaps in long documents, and other details of appearance that could be hidden at the ends of lines in processors like *ST Writer*. And you can do it without the convulsions-making scrolling you get with printing to the screen. Unlike *1st Word*, though, *TextPro* doesn't show print features like italics and underlining as you go; you do have to print to the screen to see them.

TextPro uses the mouse and desk accessories form with its many benefits. It gives you the little info and query boxes, shows you the page you are on, and lets you move around easily in a long or short document. Yet it does not make you use of the drop-down menus and mouse for everything but offers alternative key-based commands for faster access to many of its functions.

Word Writer ST (Timeworks) and *TextPro* have many of the same capacities and the same lack of an "UNDO" key and a feature that returns you to your last place in the file. *Word Writer* has a spell checker, outline processor, and piles of ready-made printer drivers that *TextPro* lacks, but *TextPro* has mail merge, sorting, table of contents, indexing, multiple columns, macros, and other things *Word Writer* lacks. *TextPro* with *Thunder!* (Batteries Included) looks the better package to me.

TextPro is copy protected, so it cannot be loaded onto a hard disk. *TextPro* can be used with Abacus'

database manager (*FilePro*) and page layout designer (*ST Text Designer*). It can work on text from *1st Word* and some other programs. It can be spell-checked with *Thunder!* It can break large files into several smaller ones that will work in small-capacity machines.

I hope an upgrade comes along soon with an "UNDO" key, a feature that returns you to your last place in a file, an indexer that will hold an indefinite number of page references, drivers for a lot of printers (it has one now for Epson compatibles), and comprehensive documentation. But with all the expansions and possibilities and with the sophisticated functions that are integral to it, I find *TextPro* impressively powerful and useful.

NEW TECHNOLOGY COLORING BOOK
Electron Paint vs Crayolas

Review by Bill Moes

Will Atari ST software presented in a coloring book format ease us into a little knowledge? Can we combine the excitement of learning with the constraint of predrawn shapes? Well, pick up your hi-tech crayons, think about those colors, and let's just see what's hue.

"New Technology Coloring Book" (NTCB) makes the noble effort, combining a text description with a drawing to be colored. The topics cover a wide range: acid rain to Voyager spacecraft, with stops in between for such well-known ditties as ultrasonography and consciousness technology (whoa ... wake up?).

Choose your subject from a catalog screen. Then read a subject overview (100-250 words) and color an illustrative drawing. Coloring may be done automatically by the program or with the user filling in color-by-number. NTCB, which is based on a softcover book recently popular, permits printouts of both text and illustrations. Pictures may also be saved to or loaded from "NEOChrome" and "DEGAS" formats.

If you choose to color the low-res image yourself, it's necessary to go to a drop-down each time you select a different color. This soon turns tedious. Your actual "coloring" consists of a click inside a region, a moment's wait, and watching the color screen-flip onto that section of the image.

NTCB requires that you either view the picture or read the text. It's not possible to read while glancing at the illustration and this lessens much of the impact possible from those words. Of course, everything could be printed out. But then why not simply buy a book in the first place?

Distributed by Electronic Arts, this $19.95 GEM-based and mouse-directed software is clearly presented and easy to use. The two dozen subjects, though, will generally not be understood by students younger than about 11 or 12 years old.

NTCB has possible applications in a classroom, primarily as a resource to provide quick introductions to a variety of subjects. At home? Buy a science magazine subscription, some blank paper, and Crayolas.

MichTron's MAJOR MOTION

An Addictive Little Devil

Review by Milt Creighton

Major Motion by Michtron ($39.95) is an arcade game. I hate arcade games. They make me feel uncoordinated and stupid and I generally leave with the same feeling I get from banging my head against a stone wall. It feels so good when I stop. Then why is it I can't stop playing this particular arcade game?

Major Motion is an addictive little devil, a more or less faithful copy of SPYHUNTER, of the arcade hall fame. It's very similar to one that my kids have spent a king's ransom in quarters to play at the local mall. It's delightfully simple to play, too.

Most of the arcade games nowadays require newly learned skills, pushing levers and buttons, twisting handles, pulling self-destruct O-rings and the like -- the kind of thing we spend millions of dollars on for training of jet fighter pilots and TV repair technicians. The point is, to expect someone on the dark side of forty to learn all these new skills just to play a game (and badly at that) is usually unrealistic.

This is especially true when you've spent two agonizing weeks mastering the basics of some new game and want to show off your newly acquired expertise to your admiring twelve-year old. Then, after setting a new high score and being duly rewarded with your name inscribed at the top of the game's honor roll, you magnanimously offer him an opportunity to try his hand.

You smirk, knowing that he hasn't read the rules and, that by the time he masters the physical skills involved, you'll have a new game to spring on him. Thus, Dad maintains the awe that is his due. So you leave him at the keyboard long enough to go upstairs to get yourself something to drink. If you've been there, you can complete this little ditty by yourself. For those of you who insist on rude awakenings, by the time you return, you find the kid has managed to erase your name from the honor roll altogether and he announces you were only playing on the first of twelve levels and he's already reached the tenth. Once or twice around that block and you become very hesitant to challenge the reflexes of anyone not as barnacle-encrusted as yourself.

With a very few arcade games (such as *Major Motion*, for example) even a grownup has a fighting chance. *Major Motion* is an automobile game and I've been driving automobiles longer than my twelve-year old has been alive. In short, I have some learned experience to bring to the game (from my years behind the wheel) that can be used as a substitute for the blinding speed of his young reflexes. It may not make things equal but at least I can give him a run for his money.

As for the game itself, *Major Motion* is loosely based on some of the old James Bond 007 films. You are equipped with a sports car (suitably outfitted by Q) and must make your getaway over a highway infested by a multitude of enemy agents. The enemy agents are mostly in other cars but you will occasionally encounter others in bomb-dropping helicopters as well. There are also innocent people on the roads and you, as a representative of whatever, are not allowed to injure or kill them -- or at least not more than a few. If you do, a jet fighter armed with guided missiles will appear and seek almost inescapable retribution.

For your protection, your car comes equipped with dual machine guns and a never-ending supply of ammunition. In addition, you will receive a special weapons systems approximately every 5,000 points and another car every 10,000 points. To get the weapons you must enter Q's eighteen-wheeler -- not always an easy task. The additional weapons systems you will from time to time acquire include oil slicks, smoke screens, missile systems (for attacking pesky helicopters), and reverse magnets which drive enemy cars away from you. Each of these additional weapons systems can be used three times before they are exhausted. You don't have to be particularly chincy with the special weapons either since you know they will be replaced fairly often.

You get points for distance traveled and enemy agents destroyed in the process. You'll learn pretty quickly that machine gunning the enemy doesn't net you as many points as forcing them off the road -- and the machine guns don't work at all against the enemy cars which happen to be armored. The blue or black cars are always the enemy and the bigger they are, the more points they are worth. You can shoot the ones equipped with blades to rip your tires (and you'd better) but the blue sedans are armored and you'll have to force them off the road if you want the points. The special weapons work against all of the enemy cars except for the single gangster sedan and the black racers which serve as major challenges in the later stages. You'll just have to learn how to outmaneuver those.

You maneuver your car using the mouse (no you can't select a joystick option, so don't look for one). Rolling the mouse forward increases the speed of your car and pulling it back slows it down. Rolling left and right will change the car's direction. The machine guns are operated by the left mouse button and the right mouse button operates one of the special weapons, in this case a supercharger which temporarily increases the speed of your car. The other weapons systems are

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Strategy Starts With An ST

Shanghai, Diablo, and PuzzlePuzzle

Reviews by Bill Moes

An unusual computer strategy game, one of quality, one encouraging thoughtful play in varying levels of ability, is not an easy find. There are the well-known games in the strategy field, the myriad versions of chess and othello and others. Most being fine, playable, and ... common. But so unique as to be impossible without a computer? Checkmate.

Recent releases for the Atari ST, though, provide a new opportunity. Each offers an unusual approach.

SHANGHAI

The view from above is of tiles, their color and size similar to those in "Scrabble". The unusual designs on those tiles are taken from "Mah-Jongg", a game of Chinese origin. Other than those designs, however, *Shanghai* has little close resemblance to "Mah-Jongg".

The shape is tiled from one to five levels high, increasing toward the center. It's said to represent a dragon. Imagination helps. Match a pair and they're removed. Others may now be seen with new pairs possible. Each tile has three others for a possible match. 144 tiles; 72 pairs. Finding them all is not necessarily a simple task.

Some may remain hidden and others you may overlook. And many you can see, yet cannot be removed. Only those on the left and right edges of a layer may be taken. So how to remove the edge tiles to get to the other possible pairs you notice. And when three of the same design are available but you're able to take just two?

In low-res, the levels are defined by various colors used for a border. In high-res monochrome, the outlined border varies in size. In neither case is the border quickly noticeable, although this changes as you become familiar with the game.

For solitaire form there is no time limit and *Shanghai* may turn to a contemplative exercise. There are two interesting variations offered. Tournament is played with each player given the same set-up to see who can remove the most tiles from the dragon. A time limit is optional. Challenge style pits two players, each taking 10 to 60 seconds to make alternate moves with the winner being the one who finds the most matches.

The GEM-style program includes various playing aids, including: a.) the opportunity to back up a move, useable as often an you wish; b.) start the current game over; c.) show all the possible moves; and d.) peek under a tile, although the game needs to end for this one. Other menu options offer details on the rules, strategy hints, a guide to the tiles, and the choice of including warning beeps in timed versions of the game. Although a 16-page booklet is included as the documentation, nearly all necessary information is included within the game.

Some of the menu choices are not available during certain types of play. It is not possible, for example, to have the program show all possible moves while you're in a challenge contest. Games may be saved at any time. When first loading, use the menu to restart the displayed game if there's a chance you'll want to save it during play. For some reason, unless you take this step it's not possible to save that first game.

With each game a random set-up, some may simply not be solvable. The disk includes fifteen games in various stages of completion which the authors claim are possible to finish. I know I was able to finish off a couple of them. If you take a look, you'll quickly notice which ones. And to see how that point was reached, you can backstep from those two remaining tiles all the way to the initial stage, just 71 clicks away.

There are two negative points, not directly related to *Shanghai* itself, which deserve mention. First: it's copy protected. Second: Activision lists the price at $44.95, or some $5-$15 over what I see as reasonable. The people at Activision, remember, are the fine folks who bought Audio Light's $39.95 *N-Vision* and are now selling that same graphics program as the $69.95 *Paintworks*. Quite a mark-up!

But judged by itself as a strategy game, I found *Shanghai* of some interest. It will not appeal to all, not even to all who enjoy strategy games. There is no movement, no animation within the game. The depth of actual strategy is open to question: we're not going to see texts written for this one. Yet, I enjoyed it.

I found it quietly involving, demanding thought but creating no sense of inadequacy with a premature end. The variations available offer styles suited to many situations, although the game remains essentially a solitaire challenge. And the menus offer instant aid.

The cautions have been issued, but the program is still worth a view. So don't let it drag on any longer. Take a look at *Shanghai*. Slay your drag on.

DIABLO

Diablo is a maze, tracks over which a ball rolls, a sliding-tile puzzle. The stage is a panel of individual tiles, 10 X 12. One area is empty and, vaguely similar

to the puzzles included with some desktop accessories, you'll need to move the 119 tiles around, taking advantage of that empty space.

Each of the tiles starts with two segments of track. Some are laid out from one side to the opposite, others turning over to an adjacent side. A ball starts rolling as the game begins. Your task is to move the tiles so that the rolling ball does not run out of track. The ball erases what it uses, needs to erase all 238 segments. No easy task! And if you're able to clear that first screen, a new one -- more difficult -- awaits.

When starting the game, you may follow a series of screens which begins with one deemed easiest, or start with a randomly chosen screen with a randomly chosen level of difficulty. Begin with three balls. If you run off the track, one is lost. And if you hit the border, also a loss. However, after clearing a number of track sections, the ball will wrap from one side to that side directly opposite. You'll then need to make sure there's a properly aligned track waiting on that other side.

Games may be paused or saved. During a pause the game screen is covered with a title page to prevent studying your best move as the ball is stilled. As it's possible to set up track panels for a long roll, a helpful option is available to increase the ball's speed.

But not all is up-to-speed. *Diablo* includes some of the most irritating background music I've heard. Thankfully, it is possible to click this off. The sound effects, which can be doused only by the monitor's volume control, are best described as uninspired.

Despite the opportunity to play randomly set up screens, there was a certain sameness to all of it. Little variety. How much better it would have been if the size of the puzzle was not always that same 10 X 12. Why not offer much smaller and easier screens at the start, fewer sections of track? Then progress to tougher, larger, more demanding challenges. Perhaps include some in unusual shapes. Or offer more than one ball rolling at once.

I found it surprising that *Diablo* did not save high scores to disk. This is such a necessary item in a game of this type, a game in which there is no clear-cut winning. By itself this lack of a high-score save may be fatal.

The $29.95 software from Classic Image is not copy protected and runs in low-res only. A brochure of five printed pages documents.

Diablo. The Big D. It stands for DISAPPOINTING.

PUZZLEPUZZLE

For monochrome users, a little gem is available through the *CN* ST Library (disk #54). *PuzzlePuzzle*, a shareware program from Tommy Software, W. Germany, is an intriguing combination of easy jigsaw puzzles and a graphics-only labyrinth adventure.

Even though *PuzzlePuzzle* lacks a save-game, the clever animation, dynamic use of graphics, and unusual game-play make this one a winner. Your time will be well-spent just viewing the cursor animation!

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MAJOR MOTION (Continued)

operated using the top row of the ST's numeric keypad. All of this works very well in comparison to some other arcade games I know which require the flexibility and reach of a contortionist.

The only real complaint I have about *Major Motion* concerns the controls. I would like to see a joystick option because I feel the game places undue stress on the mouse, and replacing a mouse is a lot more expensive proposition than replacing a joystick. The joystick option would require redefining the controls for the right mouse button -- perhaps changing it to a key on the numeric keypad -- but that is a small price to pay for saving the wear and tear on your mouse.

Major Motion also seems to produce a never-ending stream of nasty surprises (and I'm personally never sure whether that's good or bad). Once you've got the early race hazards figured out and reach the end of the road, you'll find yourself driving into a boat house and changing from a car to a speedboat. Driving the boat calls for a completely different set of reflexes and does a very good job of reducing the bonus cars you've painstakingly stockpiled. If you get to the end of the water gauntlet, you're back on the road again, makin' music with your friends, and finding out that this is a very different stretch of highway indeed.

I will reiterate the statement I made earlier. I hate arcade games. For me, they have the power to turn a perfectly beautiful day into a dark and stormy night. When I'm playing an arcade game I snap at the kids, ignore my wife, and the dogs steer wide around the purple cloud of invective slowly settling over me. In fact, I'm no fun at all. But *Major Motion* doesn't do that to me -- at least not to the same extent. I can play this game and not get completely frustrated because the skills I use to play it are similar to the ones I've developed in years of driving in the Washington rush hour traffic.

The Bottom Line: If you like arcade games, this one's a must. If you don't like arcade games but want one to have around for those people who do, *Major Motion* would get my vote. I've played most of them and, at least in this one, adults won't automatically humiliate themselves in the process of discovering that the years haven't been kind to the reflexes they were born with.

P R O F O O T B A L L W I Z A R D

The Greek Never Had It So Easy

Review by Donald C. Lyles

All of you who relied on Jimmy the Greek for your predictions last season of which football team will win over another are excellent candidates for the electronic version of Jimmy the Greek, *Pro Football Wizard*.

If an accuracy rate of over 75% for straight bets and 60% against the Las Vegas line excite you? Well, if so read on. Those are the statistics provided by the software developer, Michtron. My own observations and testing of the program would tend to support the claims made by Michtron. And had I been a betting man I would have come out ahead. And much further ahead, according to local sports broadcasters than if I had used Jimmy.

This program was developed for use by even the most casual football fan, although those seriously into the game, will go for the impressive statistics that the program develops.

Pro Football Wizard runs on the ST (either mono or color) and makes use of GEM. This program is not self booting but it can be entered into an auto folder and run from that application. Upon loading the program the screen provides you with the options of FILE, DATA ENTRY, HANDICAPPING and REPORTS. Under file commands you are given the option of loading data, saving data or quitting. You must load data i.e. a season's data to access the majority of functions in *Pro Football Wizard*. *Pro Football Wizard* will allow you to enter data for any of sixteen weeks of play. (So start now and get last seasons data in and ready to go; at least save it for later entry, or -- see below.)

You are requested to provide the following for each team, the points scored, yards rushing, yards passing and yards penalized. Completing this information for each of the sixteen regular season games can be accomplished with information obtained from the sports section of the local newspaper. One can expect to spend one hour per week inputing this information.

Alternatively, you can call Michtron's billboard (313/332-5452) and download the information in about twenty seconds. Michtron updates their BBS with current information every Wednesday. The data file PFW86.DAT is contained in their "news" section. After having received the program well into the ninth week of the season, I decided to take the easy method and download the data file. I had a serious problem. After attempting to do so unsuccessfully three times, I decided it was time to call Michtron's customer service. I found out that the terminal program I was using, *ST Talk*, would not support the downloading of the data file. However, after finding out that I could use any other terminal program, and switching to *FLASH*, I was able to download the *Pro Football Wizard* data files and go to work.

After having entered the most current weeks' data, you move to the HANDICAPPING OPTION. From there you are able to ascertain who is predicted to win against whom; either using the straight-up method or A.T.S. which stands for Against The Spread (Las Vegas Line). Most casual users/bettors will use the straight-up handicapping. More serious bettors will make use of the A.T.S., along with checking the local newspaper to see what the spread is on the line.

Pro Football Wizard also prepares reports on the standings of various teams in their respective divisions as well as the power ratings and statistics for each of the teams. This information can be sent to a printer at any time.

Pro Football Wizard requires a minimum of four weeks' statistics be entered into the data files to make its handicapping selections. This is a fairly reasonable requirement since it is developing handicaps on purely a statistical basis.

I found no bugs in the program other than the aforementioned compatibility problem with *ST Talk*. The documentation is fairly good, but could use strengthening, e.g. the subject of differentiating file commands and data entry was a bit confusing. Support from the developer is good.

Pro Football Wizard retails for $29.95 and is available locally. It makes a nice present for all of those who want to be "sure winners".

MESSAGE FROM THE SYSOP

Both ARMUDIC (for 8-bit users) and the WAACE ST BBS (for ST users) are now running with 20 Mb hard disk drives. Hard disk drives are fast and expensive so thanks to NOVATARI for advancing the money to purchase these drives.

Each BBS now requires a modest fee of $7.50 per year to partially help cover the additional expenses. (NOVATARI and NCAUG members pay only $5.00 per year.) Also, you must be a current member of one of the WAACE user groups.

To obtain access to either of the boards, you should:

1. Write a check for the appropriate amount payable to NOVATARI
2. Send to Ted Bell, 9705 Shipwright Drive, Burke, VA 22015.
3. Call the BBS you desire, hit the ")" prompt for new user, and fill out the password application (you pick your own password).
4. Make sure when you sign-off using the "G" command, that you say YES to the prompt asking you if you wish to save the password for future access.
5. Wait several days for validation and REMEMBER YOUR PASSWORD.

Both BBSs are becoming active again requiring us to put into effect the rule of "PRIME TIME." All validated callers have approximately one hour of on-line time per day -- and we hope you will NOT use it every day. It doesn't take much calculation to figure out that if 3 or 4 callers get on in the evening hours (Prime Time) and use their full access time, that they will effectively b lock any other callers from getting on for 4-5 hours. Of course there is nothing wrong with staying on slightly longer once in a while to get that extra long download file. But please don't do it every day. Remember when you are on, others are waiting to get on, and many callers are just waiting to get an answer to a technical problem etc. Prime time hours (5:00 pm to 11:00 pm) are our businest time so that's when extra consideration is required.

We are still waiting for QMI to release their multi-user system which we will test for our BBS. Last report indicates they have some major bugs in the system which will take more time to iron out.

Nice typing with you.

Ted

NORTHERN VIRGINIA ATARI USERS' GROUP (NOVATARI)

President	G. Weatherhead.	(703) 938-4829
VP-ST	Terry White	(703) 560-7726
VP-8-bit	Gary Purinton	(703) 476-8391
Treasurer	Curt Sandler	(703) 734-9533
Secretary	Bob Zimmon	(703) 476-5924
Public Relations	Gary Scott	(703) 590-1906
Membership	Earl Lilley	(703) 281-9017
Acquisitions	Palmer Pyle	(703) 437-3883
Program Managers		
Main Meeting	Michael Friedman	378-0146
ST Meeting	Ian Charters	(703) 845-7576
Asst ST Prog Man	Joe Kuffner	(703) 759-2507
Disk Librarians		
8-bit	Evan Brooks	(703) 354-4482
ST	Allen Clarke	(703) 250-4469
Asst ST	Dale Radtke	(703) 569-8795
Public Domain Disk Editors		
8-bit	Roy Brooks	(703) 750-0146
ST	Ed Seward	(703) 573-5022
MIDI Keyboard	Mike Lehr	(703) 931-9947
Other SIGs		
Beginners SIG	Gary Purinton	(703) 476-8391
Telecom SIG	Dick Knisely	(703) 476-0529
ST Programmers	Ken Whitesell	(703) 636-4756
IBM Compatible	----- VACANT -----	
SYSOP	Ted Bell	(703) 455-5312
Bulletin Boards		
8-bit	ARMUDIC	(703) 569-8305
ST	WAACE ST	(703) 569-3227

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* BBS fee information: *
* NOVATARI & NCAUG members.....$5.00/year *
* other WAACE members.....$7.50/year *
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* Make checks payable to NOVATARI and send to: *
* Ted Bell *
* 9705 Shipwright Lane *
* Burke, Virginia 22015 *

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¦NEW MEMBERS: Dues are $20/year which includes a sub- ¦
¦scription to Current Notes. Join at the main meeting,¦
¦chapter meeting or by sending $20, payable to ¦
¦NOVATARI, to Earl Lilley, 821 Ninovan Road SE, ¦
¦Vienna, VA 22180. ¦

LOCAL NOVATARI CHAPTERS

Greenbriar meets at Computer Service Land, 14506-B Lee Road, Chantilly, VA from 7:30 - 9:30 on the fourth Wednesday of each month. Contact Jim Stevenson at 378-4093.

Mt. Vernon / Hybla Valley meets the first Thursday of each month at 7:30. Contact Ron Peters at 780-0963.

Sterling meets in the Sterling Library from 7:30 - 9:30 on the first Thursday of the month. Contact Wayne Wilt 437-6159.

Vienna meets in room 10 at the Vienna Elementary School, 128 Center St. SW from 7:30 - 9:00 on the third Wednesday of the month. Contact Dave Heagy at 281-9226.

NOVATARI MAIN MEETING is held at the Washington Gas Light Building, 6801 Industrial Road, Springfield, VA. Take 495 to east on Braddock Rd (620) to south on Backlick Rd (617). Left on Industrial Rd (by a light with a Texaco station on the corner). Washington Gas Light is the second building on the right (big parking lot, go right in the front door).

TIME PERIOD	BIG AUDITORIUM	SMALL AUDITORIUM
5:30 - 6:00	Beginners SIG	Telecom SIG
6:00 - 7:00	speaker or demo	- N/A -
7:00 - 7:30	Business & Open Forum	- N/A -
7:30 - 8:30	8-bit SIG	ST SIG (VAST)*

* ST SIG also meets at Washington Gas Light from 5:30 - 9:30 on the fourth Sunday of the month.

President's Report

The annual elections were held at the January 14th main meeting (see new officers above). People should notice that the ST SIG (VAST) listing has been moved back to within the NOVATARI main listing of officers. The club structure has been modified as discussed in the December *Current Notes*; the heads of the 8-bit and ST SIGs are now Vice-President for 8-bit and Vice-President for ST.

With the announcement by Atari of the Atari PC (not to mention the IBM emulator for the ST and the Paradox system) we will need to get an IBM emulation SIG going. As part of this we will need to consider an additional disk library setup. If you are interested in helping with this please contact Georgia Weatherhead.

Many thanks go to Evan Brooks for continuing to copy disks for the 8-bit library. He won't be able to make it to the meetings so Roy Brooks has been and will continue to sell the 8-bit disks at meetings. Roy Brooks and Al Freedman have taken up the task of adding new disks to the 8-bit library.

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ATARI USERS REGIONAL ASSOCIATION (AURA)

President	John Barnes	301-652-0667
Vice President	Barry Marcus	301-926-3660
Treasurer	Mo Sherman	301-563-1097
Membership Chmn.	Richard Stoll	301-946-8435
Educ. Liaison	Bill Schadt	301-622-1547
Disk Libr.(XL/XE)	Bill Frye	301-345-4336
Disk Libr (ST)	Jeff Kellogg	
Public Relations	Richard Stoll	301-946-8435
Used Equip Sales	Lincoln Hallen	301-460-5060

MEETINGS 1st Thursday (February 5). 7:00 pm (library sales). 7:30-9:00 pm (Program) in the Temple Israel Social Hall. Temple Israel is located in Silver Spring, MD at 420 E. University Blvd. between Colesville Rd (Rt 29) and Piney Branch Rd (Md Rt 320).

CORRESPONDENCE: All correspondence, including NEW MEMBERS, membership renewals, changes of address, etc. should be sent to: AURA, P.O. Box 7761, Silver Spring, MD, 20904. AURA cannot guarantee Current Notes subscription fulfillment unless the member provides written confirmation of address changes, renewals, etc. Annual Dues are $20.

AURA REPORT FOR DECEMBER 86 and JANUARY 87

1. Meetings - For the months of January through May we expect to meet on the 1st Thursday. The 1st Thursday in February and March is the 5th. We are negotiating a continuation with Temple Israel for the period June 87 through May 88 at a rate of $83 per month. Our meetings will be on the second Thursday during this period. We do not expect to be obliged to reschedule any meetings during this time. The new agreement will become final after the February meeting. CANCELLATIONS DUE TO SNOW -- We will cancel our meeting on any evening that the Montgomery County Schools cancel Evening activities because of bad weather.

2. Officers - The slate of officers listed above was installed at the December meeting and will serve through November of 1987. The executive board met at Richard Stoll's house just before Christmas and devised plans for dealing with the entire range of issues confronting the group. Details will be reported where appropriate.

3. Meeting plans - Vice President Barry Marcus is responsible for coordinating meeting agendas. Please contact Barry to get on the agenda. Whenever possible we will coordinate demonstrations so that similar 8- and 16-bit products will be featured.

4. Member Survey - Barry Marcus is conducting a survey of hardware owned by AURA members. The results of this survey are being used to assist in program planning. We will publish some of the results next month.

5. 8-bit Library - Bill Frye demonstrated the data base program from Analog issue 37. AURA is working on gathering and documenting a "starter kit" for new users (and for some old users who want to try something new).

6. 16-bit Library - Jeff Kellogg announced that AURA will make 16-bit discs available on an order fulfillment basis. Send Jeff an order form for the disks you want and then pick them up at the next meeting. There are too many disks in the library to allow us to carry an adequate inventory for spot sales.

7. Reference Manual, Part II Mo Sherman is coordinating the assembly of reviews and indexes for the publication of the AURA Reference Manual, Part II. Mo has begun distributing disks to reviewers. More reviewers are needed. Contact Mo to help.

8. Donations to Cannon Road School - Timeworks has donated WORD WRITER ST to the Cannon Road School and Regent Software has donated REGENT WORD and REGENT BASE. AURA sincerely appreciates the contribution that these vendors have made to our educational project. Other authors or vendors who are interested in supporting this project should contact Bill Schadt, who has been awarded the title of educational liaison officer.

9. January Demos - - Bruce McLendon conducted an audience participation demo of BUZZWORDS, a new word game for the 8-bit machines. Bruce claims that his mother plays the game 10 hours a day. Audience interest was high for this challenging and attractive game. Bruce also described PUBLISHING PARTNER, a new type setting program for the ST machines. Disk problems prevented a live demo.

10. WAACE BBS - I have signed up for the WAACE BBS and I find that Ted Bell and Ed Seward have done a fine job of building an attractive, functional BBS. The board is by subscription, but the $7.50/year price is nominal indeed. NOVATARI has done all of us a favor by taking the lead on this but they have offered exceedingly generous terms for others to come on board. I urge all AURA members with ST's to sign up. I think we will be able to greatly enhance the quality of the work we do and the level of communication within the Atari community by taking advantage of this resource.

11. 1987 Dues - AURA dues are now $20 per year for Regular Members and $5 for Library members. Regular Member dues include 10 issues of *Current Notes* magazine.

10. AURA Roster -AURA has published its first member roster. Our membership data base is now on DBMAN and all responsibility for providing mailing information to *Current Notes* rests with AURA. Copies of the roster will be available at meetings or by written request to Richard Stoll (enclose a self-addressed stamped envelope). We want AURA members to know each other better and the roster is our first step in that direction.

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NATIONAL CAPITAL ATARI USERS' GROUP (NCAUG)

President........	Peter Kilcullen..	202-296-5700
Vice President...	Mike Pollak......	703-768-7669
Treasurer........	Allen H. Lerman..	703-460-0289
XL/XE Librarian..	Mike Pollak......	703-768-7669
ST Librarian.....	Enrique Seale....	202-295-0112

MEETINGS: 3rd Tuesday, 5:30 - 8:30 pm, room 543, National Science Foundation offices, 1800 G St., NW, Washington, DC. Closest subway stop is Farragut West on

the Blue and Orange lines. Building is identified by sign for Madison National Bank on the corner. Front entrance is on west side of 18th between F and G.

NEW MEMBERS may join at meeting or send $20 check, payable to NCAUG, to Allen Lerman, 14905 Waterway Drive, Rockville, MD 20853. Membership includes a subscription to CURRENT NOTES.

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WOODBRIDGE ATARI COMPUTER USERS' GROUP (WACUG)

President.....	Jack Holtzhauer..	703-670-6475
First VP.....	Arnie Turk.....	703-670-2547
Board Member.....	Bill Parker.....	703-680-3041
Board Member.....	Lou Praino.....	703-221-8193
Board Member.....	Darrell Stiles...	703-494-9819
Secretary.....	Frank Bassett, Jr	703-670-8780
Librarian.....	Charles Stringer.	703-786-8755

MEETINGS: 3rd Tuesday 7-10PM, Community Room, Potomac Branch, Prince William County Library, Opitz Blvd., Woodbridge, VA. ST SIG meetings: WED FEB 4th 7-10PM; MON MAR 30th 7-10PM, THU APR 30th 7-10PM; SUN MAY 17th 2-5PM; MON JUN 22nd 6-10 PM. Entering Woodbridge from either North or South on Route #1, proceed to the intersection of Route #1 and Opitz Blvd. (opposite Woodbridge Lincoln-Mercury). Turn West on Opitz and take first left turn into the library's parking lot. The Community Room is located to your left immediately upon entering the main building.

NEW MEMBERS: Initial membership fee is $10/yr plus $1 monthly dues. Join at meeting or send check, payable to WACUG, to Frank W. Bassett, Jr., 15313 Blacksmith Terrace, Woodbridge, VA 22191.

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FREDERICK ATARI COMPUTER ENTHUSIASTS (FACE)

President.....	Mike Kerwin.....	301-845-4477
Vice President...	Roger Eastep.....	301-972-7179
Treasurer.....	Buddy Smallwood..	301-432-6863
Librarian.....	Chris Bigelow....	301-662-4691
Secretary.....	John Maschmeier..	301-271-2470
SYSOP.....	Sam Yu.....	301-662-5586
Bulletin Board.....		301-569-8305

MEETINGS: 4th Tuesday, 7 - 9:30 pm, Walkersville H. S., MD Route 194, 1 mile north of MD Route 26 (Liberty Rd).

NEW MEMBERS: Dues are $20/year/family. Join at meeting or send check, payable to FACE, to Buddy Smallwood, P.O. Box 300, Keedysville, MD 21756.

SECRETARY'S REPORT: At the December meeting our users group enjoyed a demonstration of various Databases for the ST presented by Buddy Smallwood. Also, Chuck Grasser and a friend showed a videotape of the entire game of GOONIES.

At our January meeting, Terry Munson gave an excellent demonstration of BASIC XE and Buddy Smallwood showed us how to automate your home using the environmental controller "ECHO" for the ST. Mike Kerwin also gave a rousing demonstration of NINJA for the 8-bit systems.

At our February meeting, Bruce McLendon will display several nice tricks with the ST, and Chris Bigelow is going to show some computer-assisted designing for 8-bit systems using CAD-3D.

CORRECTION: FACE is located in and around Frederick, MARYLAND, not Virginia as indicated on page 60 of the Feb '87 issue of ANTIC.

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SOUTHERN MARYLAND ATARI USERS' GROUP (SMAUG)

President.....	Thomas Crosby....	301-843-1310
Sec/Disk Lib.....	John J. Smith....	301-862-9490
Treasurer.....	Samuel Schrinar..	301-843-7916
Newsletter Ed....	Leroy Olson.....	301-743-2200

MEETINGS: 2nd Thursday, 7:30 pm, John Hanson Middle School in Waldorf, MD. Take MD Route #5, proceed about 1/2 mile East of the intersection of Route 301 and take first left past the Kinney show store to school.

NEW MEMBERS may join at the meeting or send $20 check, payable to SMAUG, to Sam Schrinar, 2032 Alehouse Court, Waldorf, MD 20601.

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NAMELESS ATARI USERS GROUP (NAUG)

President.....	Steven Drucker...	301-798-4459
Vice Pres/Library	Dana O'Hara.....	301-798-0566
Treasurer.....	Ted Martens.....	301-798-4218
SysOp.....	Bob Eyester.....	301-267-6261
Bulletin Board...	California BBS...	301-363-8776

MEETINGS: 2nd Sunday of each month unless otherwise specified in Davidsonville, MD (suburb of Annapolis) 1:30 - 4:00 pm at the residence of Dana O'Hara (3475 Manassas Ct.). From DC take route 50 west to Davidsonville (Rt.424) Rd. exit. Proceed on 424 until intersection at route 214 (Central Avenue) and make left. Continue on 214 for 1 mi. and make left into Hardesty Estates (Vicksburg Rd.) At Stop sign, make first right onto Appomattox Rd. Make first right onto Manassas Ct.

NEW MEMBERS: Join at meeting. Dues are $20 per year and include a subscription to Current Notes.

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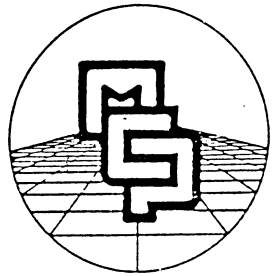

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